

FCC REPORT

(LTE)

Applicant: Acer India Pvt Ltd.

Address of Applicant: Embassy Heights 6th Floor, No.13 Magrath Road, (Next to Hosmat Hospital) Bengaluru, 560025, India

Equipment Under Test (EUT)

Product Name: Tablet PC

Model No.: Acer One 10 T4-129L

Trade mark: Acer

FCC ID: 2AMY3-ACERONE10T

Applicable standards: FCC CFR Title 47 Part 2
FCC CFR Title 47 Part 22 Subpart H
FCC CFR Title 47 Part 27 Subpart M

Date of sample receipt: 24 Sep., 2019

Date of Test: 25 Sep., to 26 Oct., 2019

Date of report issued: 28 Oct., 2019

Test Result: PASS*

*In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

A circular blue ink stamp from CCIS (Shenzhen Zhongjian Nanfang Testing Co., Ltd.) is visible. The stamp contains the text "SHENZHEN ZHONGJIAN NANFANG TESTING CO., LTD." around the perimeter and "CCIS" in the center. A handwritten signature in blue ink is written across the stamp.

Bruce Zhang
Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the CCIS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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2. Version

Version No.	Date	Description
00	28 Oct., 2019	Original

Tested by:

YT Yang
Test Engineer

Date:

28 Oct., 2019

Reviewed by:

Winner Zhang
Project Engineer

Date:

28 Oct., 2019

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4. Test Summary

Test Items	Section in CFR 47	Result
RF Exposure (SAR)	Part 1.1307 Part 2.1093	Passed (Please refer to SAR Report)
RF Output Power	Part 2.1046 Part 22.913 (a)(2) Part 27.50 (h)(2)	Pass
Peak-to-Average Ratio	Part 24.232 (d) Part 27.50(d)(5)	Pass
Modulation Characteristics	Part 2.1047	Pass
99% & -26 dB Occupied Bandwidth	Part 2.1049 Part 22.917(b) Part 27.53(m)	Pass
Out of band emission at antenna terminals	Part 2.1053 Part 22.917(a) Part 27.53(m)	Pass
Field strength of spurious radiation	Part 22.917(a) Part 27.53(m)	Pass
Frequency stability vs. temperature	Part 22.355 Part 27.54 Part 2.1055(a)(1)(b)	Pass
Frequency stability vs. voltage	Part 22.355 Part 27.54 Part 2.1055(d)(2)	Pass
Remark: 1. Pass: The EUT complies with the essential requirements in the standard. 2. The cable insertion loss used by "RF Output Power" and other conduction measurement items is 0.5dB (provided by the customer).		
Test Method:	ANSI/TIA-603-E-2016 ANSI C63.26-2015	

5. General Information

5.1 Client Information

Applicant:	Acer India Pvt Ltd.
Address:	Embassy Heights 6th Floor, No.13 Magrath Road, (Next to Hosmat Hospital) Bengaluru, 560025, India
Manufacturer/ Factory:	SHENZHEN YUKO TECHNOLOGY CO., LTD
Address:	6TH FLOOR,A9 BUILDING TIANRUI INDUSTRIAL PARK,FUYUAN 1ST RD ,BAO.'AN ,SHENZHEN

5.2 General Description of E.U.T.

Product Name:	Tablet PC
Model No.:	Acer One 10 T4-129L
Operation Frequency range:	LTE Band 5: 824MHz-849MHz, RX: 869MHz-894MHz LTE Band 41: TX: 2555MHz-2655MHz, RX: 2555 MHz-2655 MHz
Modulation type:	QPSK, 16QAM
Antenna type:	Internal Antenna
Antenna gain:	LTE Band 5: 0.56dBi LTE Band 41: 1.53dBi
Power supply:	Rechargeable Li-ion Battery DC3.7V, 5800mAh
AC adapter:	Model: K-T100502000U Input: AC100-240V, 50/60Hz, 0.35A Output: DC 5.0V, 2.0A
Test Sample Condition:	The applicant provided engineering samples for staying in continuously transmitting for testing.

Operation Frequency List:

LTE Band 5 (1.4MHz)		LTE Band 5 (3MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
20407	824.70	20415	825.50
20408	824.80	20416	825.60
....			
20524	836.40	20524	836.40
20525	836.50	20525	836.50
20526	836.60	20526	836.60
...	...	...	...
20642	848.20	20634	847.40
20643	848.30	20635	847.50
LTE Band 5 (5MHz)		LTE Band 5 (10MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
20425	826.50	20450	829.00
20426	826.60	20451	829.10
....			
20524	836.40	20524	836.40
20525	836.50	20525	836.50
20526	836.60	20526	836.60
...	...	...	...
20624	846.40	20599	839.90
20625	846.50	20600	844.00

LTE Band 41 (5MHz)		LTE Band 41 (10MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
40265	2557.50	40290	2560.00
40266	2557.60	40291	2560.10
....			
40739	2604.90	40739	2604.90
40740	2605.00	40740	2605.00
40741	2605.10	40741	2605.10
...	...	...	...
41214	2652.40	21189	2649.90
41215	2652.50	21190	2650.00
LTE Band 41 (15MHz)		LTE Band 41 (20MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
40315	2562.50	40340	2565.00
40316	2562.60	40341	2565.10
....			
40739	2604.90	40739	2604.90
40740	2605.00	40740	2605.00
40741	2605.10	40741	2605.10
...	...	...	...
41164	2647.40	41139	2644.90
41165	2647.50	41140	2645.00

Regards to the operating frequency range, the lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channels as below:

LTE Band 5 (1.4MHz)			LTE Band 5 (3MHz)		
Channel:		Frequency (MHz)	Channel		Frequency (MHz)
Lowest channel	20407	824.70	Lowest channel	20415	825.50
Middle channel	20525	836.50	Middle channel	20525	836.50
Highest channel	20643	848.30	Highest channel	20635	847.50
LTE Band 5 (5MHz)			LTE Band 5 (10MHz)		
Channel		Frequency (MHz)	Channel		Frequency (MHz)
Lowest channel	20425	826.50	Lowest channel	20450	829.00
Middle channel	20525	836.50	Middle channel	20525	836.50
Highest channel	20625	846.50	Highest channel	20600	844.00

LTE Band 41 (5MHz)			LTE Band 41 (10MHz)		
Channel		Frequency (MHz)	Channel		Frequency (MHz)
Lowest channel	40265	2557.5	Lowest channel	40290	2560.0
Middle channel	40740	2605.0	Middle channel	40740	2605.0
Highest channel	41215	2652.5	Highest channel	41190	2650.0
LTE Band 41 (15MHz)			LTE Band 41 (20MHz)		
Channel		Frequency (MHz)	Channel		Frequency (MHz)
Lowest channel	40315	2562.5	Lowest channel	40340	2565.0
Middle channel	40740	2605.0	Middle channel	40740	2605.0
Highest channel	41165	2647.5	Highest channel	41140	2645.0

5.3 Test environment and mode

Operating Environment:	
Temperature:	Normal: 15°C ~ 35°C, Extreme: -30°C ~ +50°C
Humidity:	20 % ~ 75 % RH
Atmospheric Pressure:	1008 mbar
Voltage:	Nominal: 3.7Vdc, Extreme: Low 3.5Vdc, High 4.20Vdc
Test mode:	
LTE QPSK mode	Keep the EUT communication with simulated station in QPSK mode
LTE 16-QAM mode	Keep the EUT communication with simulated station in 16-QAM mode
Remark: The EUT has been tested under continuous transmitting mode. Channel Low, Mid and High for each type band with rated data rate were chosen for full testing. The field strength of spurious radiation emission was measured as EUT stand-up position (H mode) and lie down position (E1, E2 mode) for these modes with power adaptor, earphone and Data cable. Just the worst case position (H mode) shown in report.	

5.4 Description of Support Units

Test Equipment	Manufacturer	Model No.	Serial No.
Simulated Station	Anritsu	MT8820C	6201026545

5.5 Measurement Uncertainty

Parameters	Expanded Uncertainty
Radiated Emission (9kHz ~ 30MHz)	±3.12 dB (k=2)
Radiated Emission (30MHz ~ 1000MHz)	±4.32 dB (k=2)
Radiated Emission (1GHz ~ 18GHz)	±5.38 dB (k=2)
Radiated Emission (18GHz ~ 40GHz)	±3.36 dB (k=2)

5.6 Related Submittal(s) / Grant (s)

This is an original grant, no related submittals and grants.
--

5.7 Additions to, deviations, or exclusions from the method

No

5.8 Laboratory Facility

The test facility is recognized, certified, or accredited by the following organizations: ● FCC - Designation No.: CN1211 Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been accredited as a testing laboratory by FCC (Federal Communications Commission). The test firm Registration No. is 727551. ● ISED – CAB identifier.: CN0021 The 3m Semi-anechoic chamber of Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1. ● CNAS - Registration No.: CNAS L6048 Shenzhen Zhongjian Nanfang Testing Co., Ltd. is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L6048. ● A2LA - Registration No.: 4346.01 This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: https://portal.a2la.org/scopepdf/4346-01.pdf

5.9 Laboratory Location

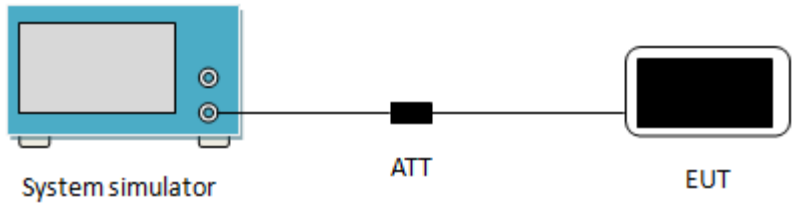
Shenzhen Zhongjian Nanfang Testing Co., Ltd.
Address: No. B-C, 1/F., Building 2, Laodong No.2 Industrial Park, Xixiang Road,
Bao'an District, Shenzhen, Guangdong, China
Tel: +86-755-23118282, Fax: +86-755-23116366
Email: info@ccis-cb.com, Website: <http://www.ccis-cb.com>

5.10 Test Instruments list

Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
3m SAC	SAEMC	9m*6m*6m	966	07-22-2017	07-21-2020
BiConiLog Antenna	SCHWARZBECK	VULB9163	497	03-18-2019	03-17-2020
Biconical Antenna	SCHWARZBECK	VUBA9117	359	06-22-2017	06-21-2020
Horn Antenna	SCHWARZBECK	BBHA9120D	916	03-18-2019	03-17-2020
Horn Antenna	SCHWARZBECK	BBHA9120D	1805	06-22-2017	06-21-2020
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170582	11-21-2018	11-20-2019
EMI Test Software	AUDIX	E3	Version: 6.110919b		
Pre-amplifier	HP	8447D	2944A09358	03-18-2019	03-17-2020
Pre-amplifier	CD	PAP-1G18	11804	03-18-2019	03-17-2020
Spectrum analyzer	Rohde & Schwarz	FSP30	101454	03-18-2019	03-17-2020
EMI Test Receiver	Rohde & Schwarz	ESRP7	101070	03-18-2019	03-17-2020
Spectrum Analyzer	Agilent	N9020A	MY50510123	10-29-2018	10-28-2019
				10-29-2019	10-28-2020
Signal Generator	Rohde & Schwarz	SMX	835454/016	03-18-2019	03-17-2020
Signal Generator	R&S	SMR20	1008100050	03-18-2019	03-17-2020
RF Switch Unit	MWRFTTEST	MW200	N/A	N/A	N/A
Test Software	MWRFTTEST	MTS8200	Version: 2.0.0.0		
Cable	ZDECL	Z108-NJ-NJ-81	1608458	03-18-2019	03-17-2020
Cable	MICRO-COAX	MFR64639	K10742-5	03-18-2019	03-17-2020
Cable	SUHNER	SUCOFLEX100	58193/4PE	03-18-2019	03-17-2020
DC Power Supply	XinNuoEr	WYK-10020K	1409050110020	10-31-2018	10-30-2019
				10-31-2019	10-30-2020
Temperature Humidity Chamber	HengPu	HPGDS-500	20140828008	09-24-2018	09-23-2019
				09-24-2019	09-23-2020
Simulated Station	Rohde & Schwarz	CMW500	140493	07-16-2018	07-15-2019
				07-16-2019	07-15-2020

6. Test results

6.1 Conducted Output Power, ERP and EIRP

Test Requirement:	Part 22.913(a)(2), Part 27.50 (h)(2)
Limit:	LTE Band 5: 7W, LTE Band 41: 2W
Test Setup:	 The diagram illustrates the test setup. On the left is a blue rectangular box labeled 'System simulator'. A line connects its right side to a small black rectangle labeled 'ATT' (attenuator). Another line connects the right side of the 'ATT' to a black rectangular box labeled 'EUT' (Equipment Under Test).
Test Procedure:	The transmitter output was connected to a calibrated attenuator, the other end of which was connected to the CMW500. Transmitter output power was read off in dBm.
Test Instruments:	Refer to section 5.10 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data:

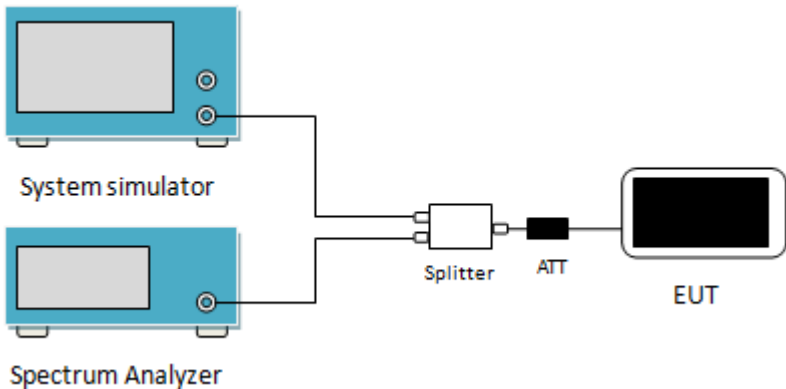
LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)			
					20407	20525	20643	
					824.7MHz	836.5MHz	848.3MHz	
5	1.4	QPSK	1	0	22.89	22.78	22.69	
			1	2	22.96	22.86	22.78	
			1	5	22.87	22.67	22.67	
			3	0	21.86	21.76	21.70	
			3	1	21.81	21.69	21.69	
			3	2	21.95	21.81	21.72	
			6	0	21.98	21.84	21.78	
		Antenna Gain(dBi):				0.56		
		Max. ERP (dBm):				21.37		
		ERP Limit (dBm):				38.45		
		16QAM	1	0	21.98	21.85	21.81	
			1	2	21.86	21.84	21.82	
			1	5	21.89	21.79	21.86	
			3	0	20.68	20.58	20.54	
			3	1	20.82	20.79	20.63	
			3	2	20.83	20.78	20.57	
			6	0	20.93	20.81	20.75	
Antenna Gain(dBi):				0.56				
Max. ERP (dBm):				20.39				
ERP Limit (dBm):				38.45				
LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)			
					20415	20525	20635	
					825.5MHz	836.5MHz	847.50MHz	
5	3	QPSK	1	0	22.89	22.75	22.78	
			1	7	22.97	22.89	22.89	
			1	14	22.93	22.96	22.74	
			8	0	21.93	21.77	21.69	
			8	4	21.89	21.79	21.78	
			8	7	21.92	21.84	21.74	
			15	0	21.93	21.83	21.73	
		Antenna Gain(dBi):				0.56		
		Max. ERP (dBm):				21.38		
		ERP Limit (dBm):				38.45		
		16QAM	1	0	21.91	21.90	21.87	
			1	7	21.96	22.04	21.86	
			1	14	22.10	21.89	21.82	
			8	0	20.85	20.72	20.67	
			8	4	20.96	20.74	20.73	
			8	7	20.87	20.80	20.80	
			15	0	20.86	20.89	20.74	
Antenna Gain(dBi):				0.56				
Max. ERP (dBm):				20.51				
ERP Limit (dBm):				38.45				
Note: EIRP (dBm) = Average power (dBm) + Antenna Gain (dBi). ERP (dBm) = EIRP (dBm) - 2.15 (dB).								

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)			
					20425	20525	20625	
					826.5MHz	836.5MHz	846.5MHz	
5	5	QPSK	1	0	22.74	22.59	22.54	
			1	12	22.86	22.74	22.69	
			1	24	22.85	22.56	22.57	
			12	0	21.74	21.62	21.60	
			12	6	21.82	21.67	21.72	
			12	11	21.81	21.71	21.61	
			25	0	21.79	21.65	21.69	
		Antenna Gain(dBi):				0.56		
		Max. ERP (dBm):				21.27		
		ERP Limit (dBm):				38.45		
		16QAM	1	0	21.70	21.61	21.65	
			1	12	21.87	21.65	21.83	
			1	24	21.86	21.60	21.59	
			12	0	20.84	20.76	20.77	
			12	6	20.95	20.75	20.68	
			12	11	20.83	20.79	20.74	
			25	0	20.88	20.61	20.79	
Antenna Gain(dBi):				0.56				
Max. ERP (dBm):				20.28				
ERP Limit (dBm):				38.45				
LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)			
					20450	20525	20600	
					829.0MHz	836.5MHz	844.0MHz	
5	10	QPSK	1	0	22.69	22.69	22.45	
			1	24	22.78	22.58	22.56	
			1	49	22.59	22.57	22.57	
			25	0	21.72	21.62	21.59	
			25	12	21.78	21.65	21.53	
			25	24	21.71	21.67	21.66	
			50	0	21.74	21.67	21.63	
		Antenna Gain(dBi):				0.56		
		Max. ERP (dBm):				21.19		
		ERP Limit (dBm):				38.45		
		16QAM	1	0	21.60	21.70	21.45	
			1	24	21.82	21.74	21.11	
			1	49	21.70	21.64	21.65	
			25	0	20.84	20.66	20.69	
			25	12	20.76	20.77	20.55	
			25	24	20.78	20.68	20.47	
			50	0	20.79	20.78	20.59	
Antenna Gain(dBi):				0.56				
Max. ERP (dBm):				20.23				
ERP Limit (dBm):				38.45				
Note: EIRP (dBm) = Average power (dBm) + Antenna Gain (dBi). ERP (dBm) = EIRP (dBm) - 2.15 (dB).								

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)			
					40265	40740	41215	
					2557.5MHz	2605.0MHz	2652.5MHz	
41	5	QPSK	1	0	23.12	22.45	22.58	
			1	12	23.23	22.56	22.45	
			1	24	23.10	22.47	22.63	
			12	0	22.28	22.56	21.47	
			12	6	22.31	22.47	21.56	
			12	11	22.42	22.53	21.89	
			25	0	22.39	21.65	21.46	
		Antenna Gain (dBi):				1.53		
		Max. EIRP (dBm):				24.76		
		EIRP Limit (dBm):				33.00		
		16QAM	1	0	22.36	21.64	21.54	
			1	12	22.28	21.57	21.63	
			1	24	22.24	21.52	21.47	
			12	0	21.24	20.58	20.58	
			12	6	21.29	20.47	20.47	
			12	11	21.23	20.43	20.69	
			25	0	21.39	20.64	20.58	
Antenna Gain (dBi):				1.53				
Max. EIRP (dBm):				23.89				
EIRP Limit (dBm):				33.00				
LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)			
					40290	40740	41190	
					2560.0MHz	2605.0MHz	2650.0MHz	
41	10	QPSK	1	0	23.25	22.58	22.46	
			1	24	23.11	22.69	22.59	
			1	49	23.03	22.47	22.63	
			25	0	22.52	21.56	21.45	
			25	12	22.45	21.65	21.29	
			25	24	22.36	21.64	21.27	
			50	0	22.31	21.65	21.36	
		Antenna Gain (dBi):				1.53		
		Max. EIRP (dBm):				24.78		
		EIRP Limit (dBm):				33.00		
		16QAM	1	0	22.12	21.69	21.34	
			1	24	22.32	21.66	21.39	
			1	49	22.41	21.41	21.58	
			25	0	21.32	20.69	20.56	
			25	12	21.33	20.47	20.45	
			25	24	21.30	20.59	20.69	
			50	0	21.34	20.63	20.78	
Antenna Gain (dBi):				1.53				
Max. EIRP (dBm):				23.94				
EIRP Limit (dBm):				33.00				
Note: EIRP (dBm) = Average power (dBm) + Antenna Gain (dBi).								

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)			
					40315	40740	41165	
					2562.5MHz	2605.0MHz	2647.5MHz	
41	15	QPSK	1	0	23.12	22.47	22.12	
			1	37	23.12	22.53	22.56	
			1	74	23.16	22.39	22.47	
			36	0	22.45	21.60	22.12	
			36	16	22.24	21.66	22.03	
			36	35	22.12	21.55	22.14	
			75	0	22.19	21.57	21.56	
		Antenna Gain (dBi):				1.53		
		Max. EIRP (dBm):				24.69		
		EIRP Limit (dBm):				33.00		
		16QAM	1	0	22.48	21.75	21.40	
			1	37	22.35	21.68	21.56	
			1	74	22.32	21.51	21.55	
			36	0	21.33	21.13	21.12	
			36	16	21.25	21.03	21.45	
			36	35	21.27	21.52	21.36	
			75	0	21.13	21.14	21.02	
		Antenna Gain (dBi):				1.53		
		Max. EIRP (dBm):				24.01		
		EIRP Limit (dBm):				33.00		
LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)			
					40340	40740	41140	
					2565.0MHz	2605.0MHz	2645.0MHz	
41	20	QPSK	1	0	23.18	22.32	22.36	
			1	49	23.08	22.54	22.45	
			1	99	23.13	22.14	22.63	
			50	0	22.55	21.65	21.36	
			50	24	22.36	21.63	21.74	
			50	49	22.57	21.50	21.32	
			100	0	22.26	21.65	21.25	
		Antenna Gain (dBi):				1.53		
		Max. EIRP (dBm):				24.71		
		EIRP Limit (dBm):				33.00		
		16QAM	1	0	21.24	21.64	21.17	
			1	49	21.14	21.78	21.23	
			1	99	21.16	21.47	21.41	
			50	0	21.45	21.13	21.03	
			50	24	21.17	21.23	21.12	
			50	49	21.36	21.10	21.04	
			100	0	21.20	21.03	21.01	
		Antenna Gain (dBi):				1.53		
		Max. EIRP (dBm):				23.31		
		EIRP Limit (dBm):				33.00		
Note: EIRP (dBm) = Average power (dBm) + Antenna Gain (dBi).								

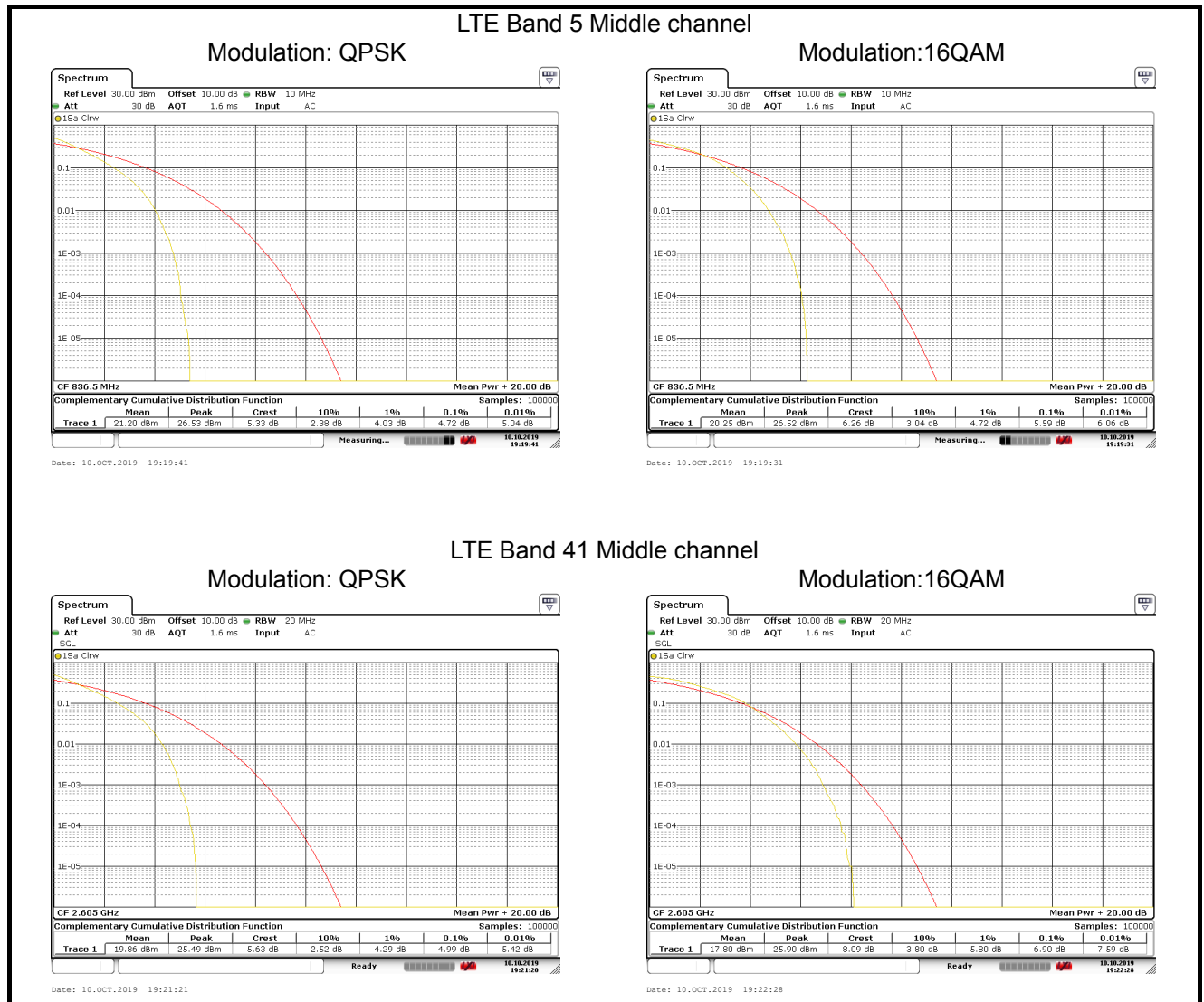
6.2 Peak-to-Average Ratio

Test Requirement:	Part 24.232 (d), Part 27.50(d)(5)
Limit:	The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.
Test Setup:	 The diagram illustrates the test setup. On the left, there are two blue rectangular units: the top one is labeled 'System simulator' and the bottom one is labeled 'Spectrum Analyzer'. Both have a single output port. These two ports are connected to a single input port of a white rectangular unit labeled 'Splitter'. The 'Splitter' has two output ports. One output port is connected to a black rectangular unit labeled 'ATT' (Attenuator). The other output port is connected to a black rectangular unit labeled 'EUT' (Equipment Under Test).
Test Procedure:	1 The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. 2 Set the CCDF option in spectrum analyzer, $RBW \geq OBW$, 3 Set the EUT working in highest power level, measured and recorded the 0.1% as PAPR level. 4 Repeat step 1~3 at other frequency and modulations.
Test Instruments:	Refer to section 5.10 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

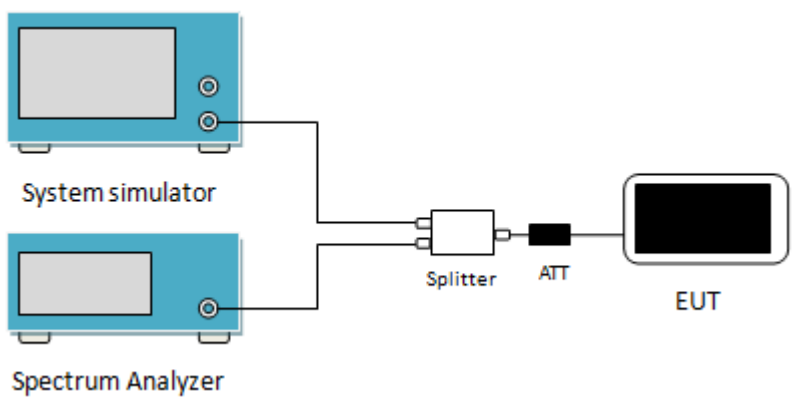
Measurement Data (Worst case):

Bandwidth	Modulation	RB Size	RB Offset	PAPR
LTE Band 5 (Middle Channel)				
10MHz	QPSK	50	0	4.72
	16QAM	50	0	5.59
LTE Band 41 (Middle Channel)				
20MHz	QPSK	50	0	4.99
	16QAM	50	0	6.90

Test plots as below:



6.3 Occupy Bandwidth

Test Requirement:	Part 22.917(b), Part 27.53(m)
Test Setup:	 The diagram illustrates the test setup. On the left, there are two blue rectangular units: the top one is labeled 'System simulator' and the bottom one is labeled 'Spectrum Analyzer'. Both have a single output port. These two ports are connected to a single input port of a white rectangular unit labeled 'Splitter'. The 'Splitter' has two output ports. One output port is connected to a black rectangular unit labeled 'ATT' (Attenuator). The other output port is connected to a black rectangular unit labeled 'EUT' (Equipment Under Test).
Test Procedure:	1. The EUT's output RF connector was connected with a short cable to the spectrum analyzer 2. RBW was set to about 1% ~ 5% of emission BW, VBW= 3 times RBW. 3. -26dBc display line was placed on the screen (or 99% bandwidth), the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace.
Test Instruments:	Refer to section 5.10 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

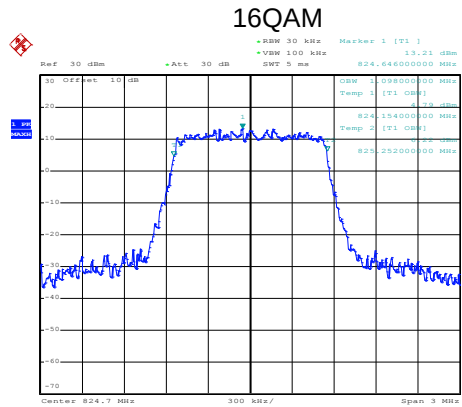
Measurement Data:

TE Band 5					
Bandwidth	Channel	Frequency (MHz)	Modulation	99% OBW (kHz)	-26dBcEBW (kHz)
1.4MHz	20407	824.7	16QAM	1098	1260
			QPSK	1098	1272
	20525	836.5	16QAM	1086	1278
			QPSK	1098	1290
	20643	848.3	16QAM	1092	1272
			QPSK	1104	1296
3MHz	20415	825.5	16QAM	2724	2952
			QPSK	2736	3012
	20525	836.50	16QAM	2724	2964
			QPSK	2724	2988
	20635	847.50	16QAM	2712	2940
			QPSK	2724	2988
5MHz	20425	826.50	16QAM	4480	4880
			QPSK	4520	5040
	20525	836.50	16QAM	4520	5000
			QPSK	4520	4980
	20625	846.50	16QAM	4520	4920
			QPSK	4520	5160
10MHz	20450	829.00	16QAM	9160	10160
			QPSK	9160	10480
	20525	836.50	16QAM	9080	10200
			QPSK	9160	10400
	20600	844.00	16QAM	9120	10040
			QPSK	9160	10240

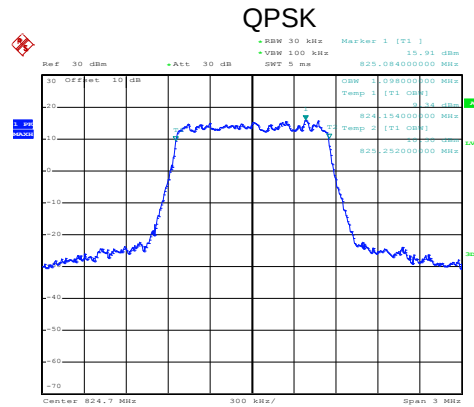
LTE Band 41					
Bandwidth	Channel	Frequency (MHz)	Modulation	99% OBW (kHz)	-26dBcEBW (kHz)
5MHz	40265	2557.5	16QAM	4500	4960
			QPSK	4540	5140
	40740	2605.0	16QAM	4520	4820
			QPSK	4500	5000
	41215	2652.5	16QAM	4520	4920
			QPSK	4520	4960
10MHz	40290	2560.0	16QAM	9040	10200
			QPSK	9080	10440
	40740	2605.0	16QAM	9120	10000
			QPSK	9080	10200
	41190	2650.0	16QAM	9040	9960
			QPSK	9080	10320
15MHz	40315	2562.5	16QAM	13560	14460
			QPSK	13500	15060
	40740	2605.0	16QAM	13500	14820
			QPSK	13560	14880
	41165	2647.5	16QAM	13440	14580
			QPSK	13500	14940
20MHz	40340	2565.0	16QAM	17920	19200
			QPSK	18000	19440
	40740	2605.0	16QAM	17920	19040
			QPSK	18080	19440
	41140	2645.0	16QAM	17920	19120
			QPSK	18000	19440

Test plot as follows:
LTE Band 5 part:

LTE Band 5: 99% Occupancy bandwidth
BW: 1.4MHz

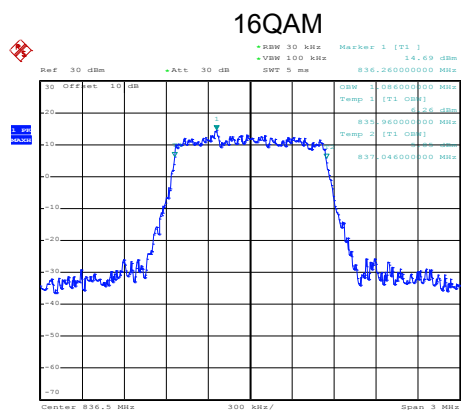


Date: 11.OCT.2019 13:49:38

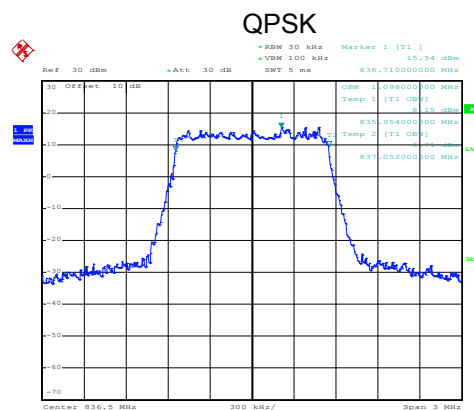


Date: 11.OCT.2019 13:49:34

Lowest channel

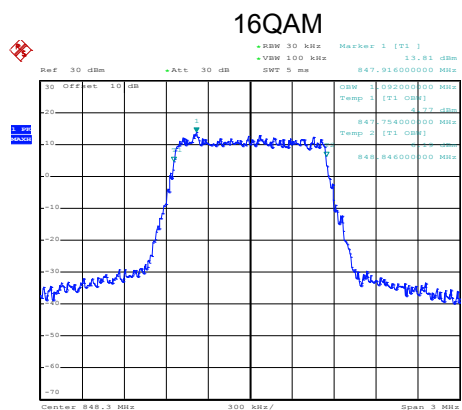


Date: 11.OCT.2019 13:50:17

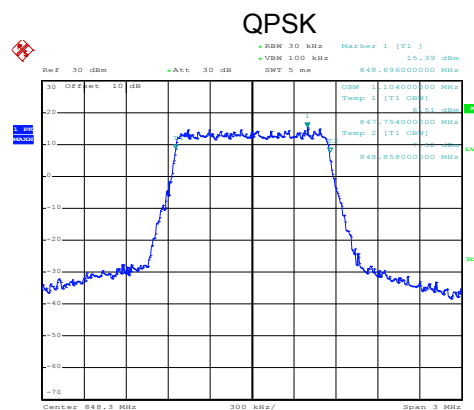


Date: 11.OCT.2019 13:50:13

Middle channel



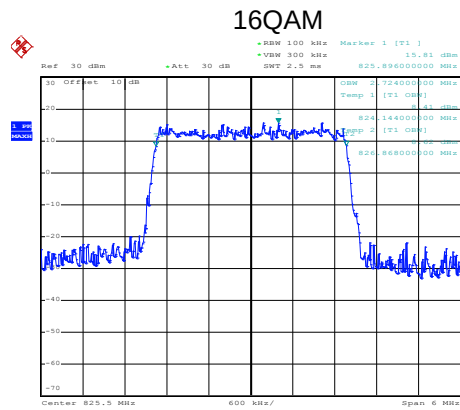
Date: 11.OCT.2019 13:50:36



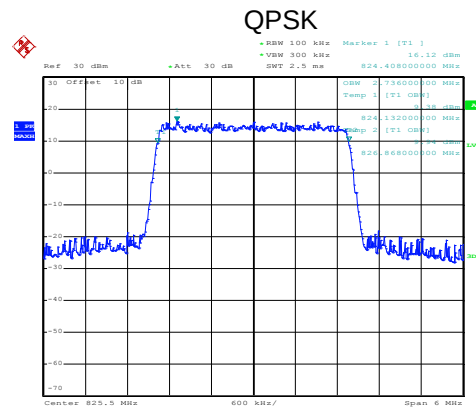
Date: 11.OCT.2019 13:50:32

Highest channel

LTE Band 5: 99% Occupancy bandwidth BW: 3MHz

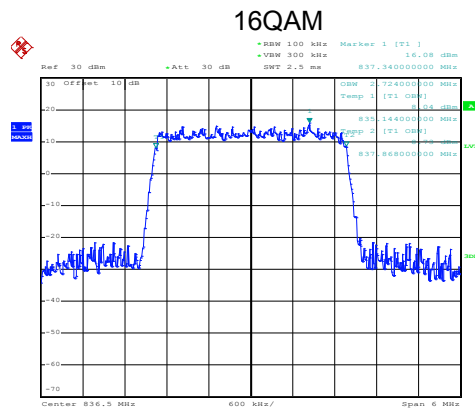


Date: 11.OCT.2019 13:51:29

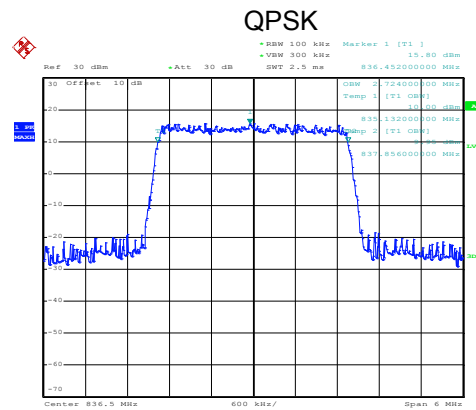


Date: 11.OCT.2019 13:51:25

Lowest channel

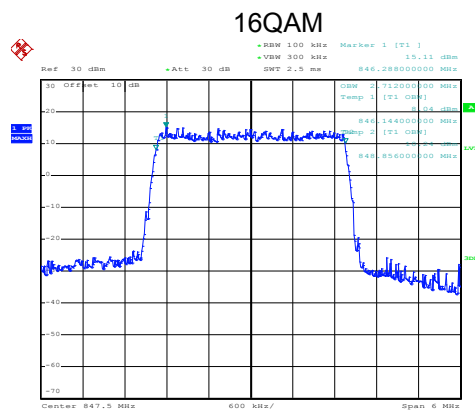


Date: 11.OCT.2019 13:51:42

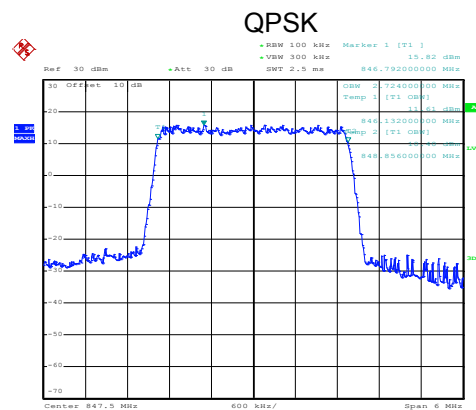


Date: 11.OCT.2019 13:51:39

Middle channel



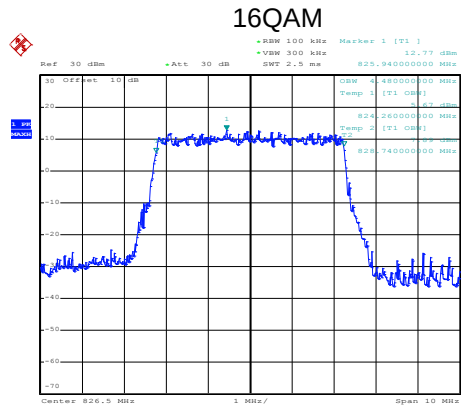
Date: 11.OCT.2019 13:52:21



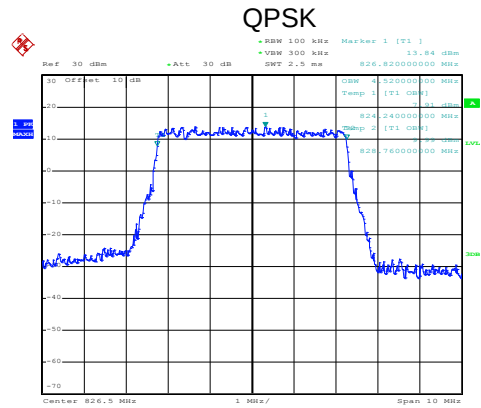
Date: 11.OCT.2019 13:52:17

Highest channel

LTE Band 5: 99% Occupancy bandwidth BW: 5MHz

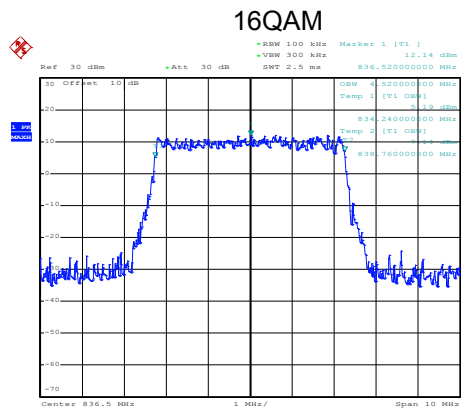


Date: 11.OCT.2019 13:52:47

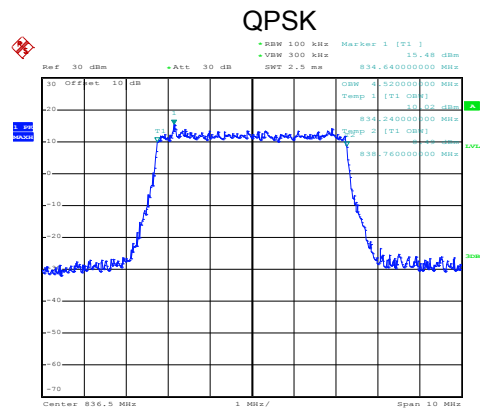


Date: 11.OCT.2019 13:52:44

Lowest channel

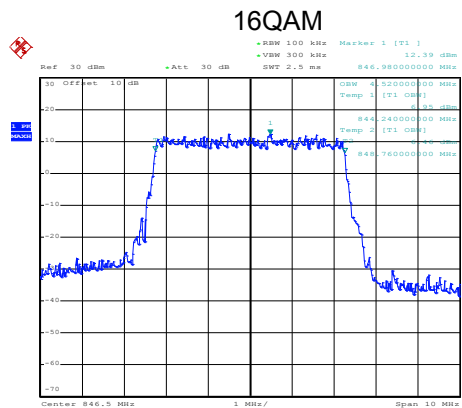


Date: 11.OCT.2019 13:53:40

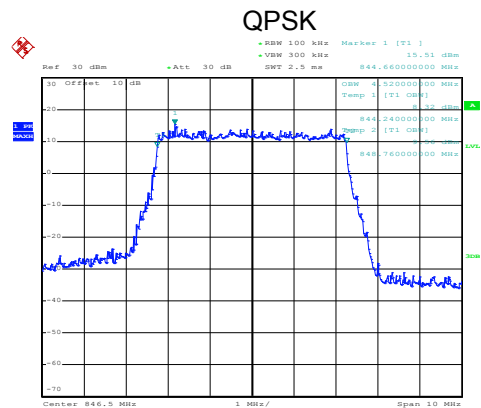


Date: 11.OCT.2019 13:53:36

Middle channel



Date: 11.OCT.2019 13:53:57

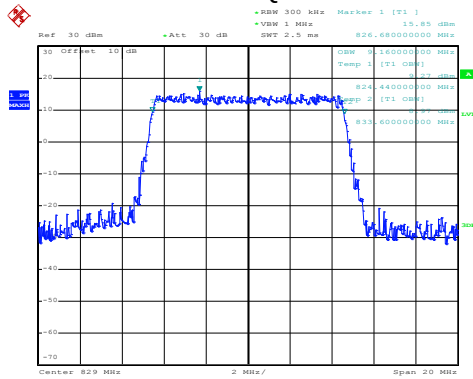


Date: 11.OCT.2019 13:53:53

Highest channel

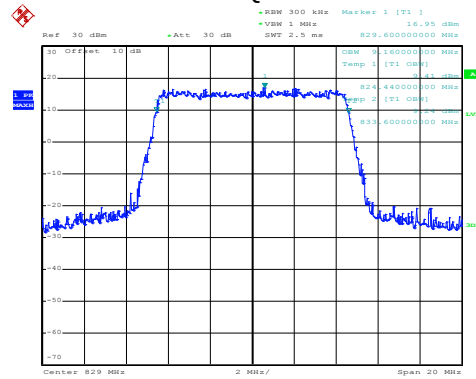
LTE Band 5: 99% Occupancy bandwidth
BW: 10MHz

16QAM



Date: 11.OCT.2019 13:54:58

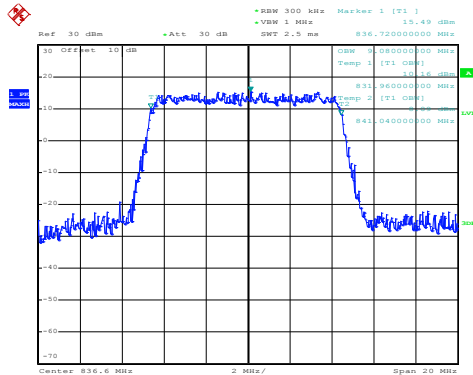
QPSK



Date: 11.OCT.2019 13:54:54

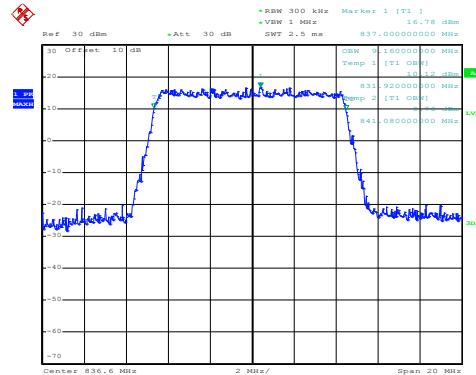
Lowest channel

16QAM



Date: 11.OCT.2019 13:55:12

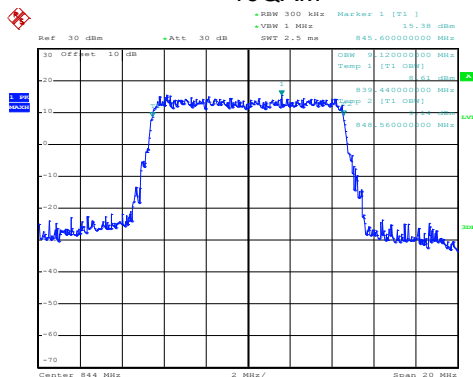
QPSK



Date: 11.OCT.2019 13:55:09

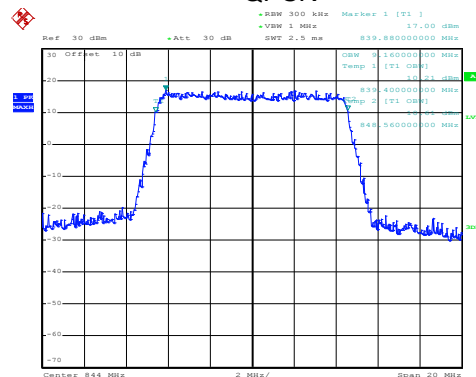
Middle channel

16QAM



Date: 11.OCT.2019 13:55:51

QPSK

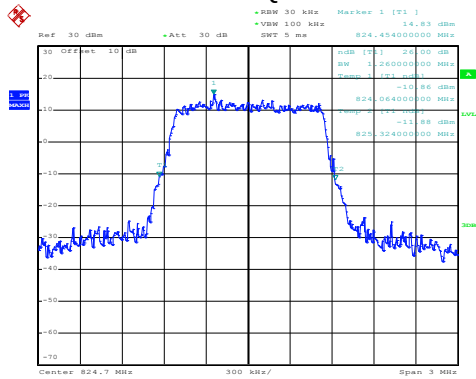


Date: 11.OCT.2019 13:55:48

Highest channel

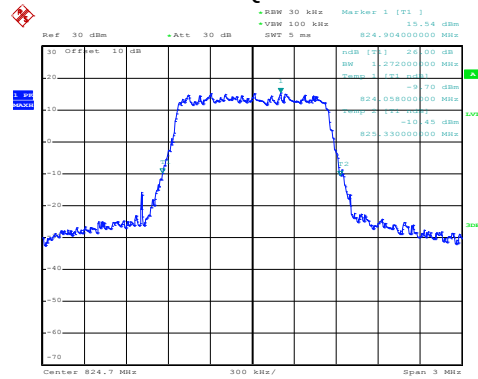
LTE Band 5: -26dBc bandwidth
BW: 1.4MHz

16QAM



Date: 11.OCT.2019 13:49:50

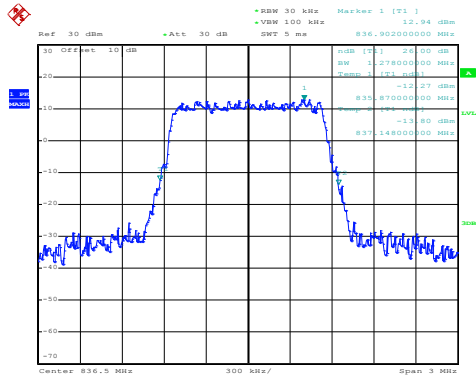
QPSK



Date: 11.OCT.2019 13:49:47

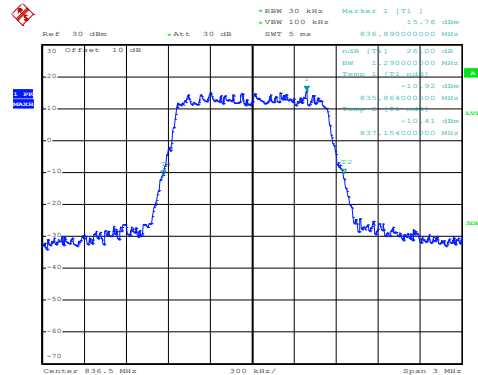
Lowest channel

16QAM



Date: 11.OCT.2019 13:50:06

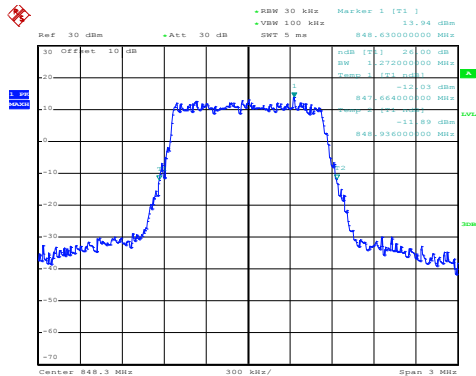
QPSK



Date: 11.OCT.2019 13:50:03

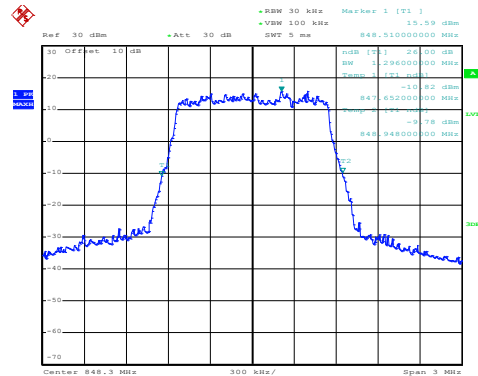
Middle channel

16QAM



Date: 11.OCT.2019 13:50:47

QPSK

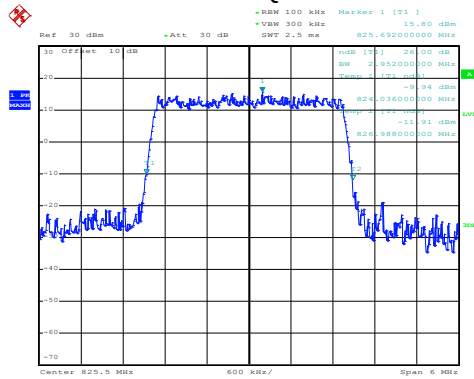


Date: 11.OCT.2019 13:50:44

Highest channel

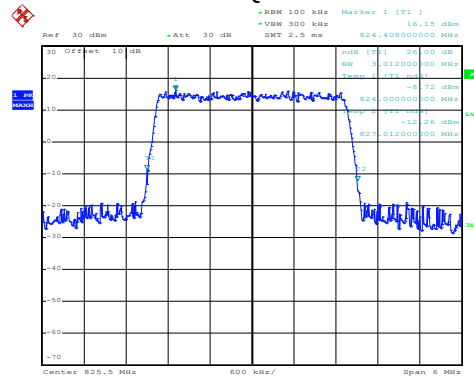
LTE Band 5: -26dBc bandwidth
BW: 3MHz

16QAM



Date: 11.OCT.2019 13:51:18

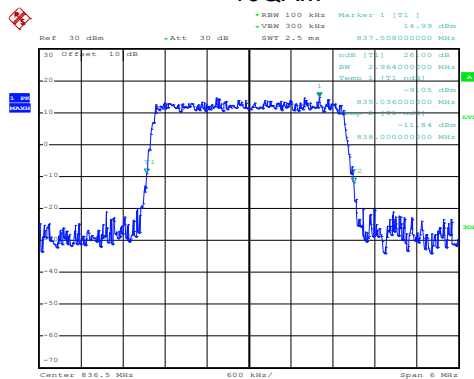
QPSK



Date: 11.OCT.2019 13:51:15

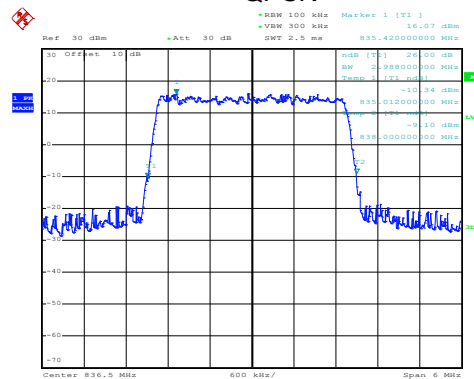
Lowest channel

16QAM



Date: 11.OCT.2019 13:51:53

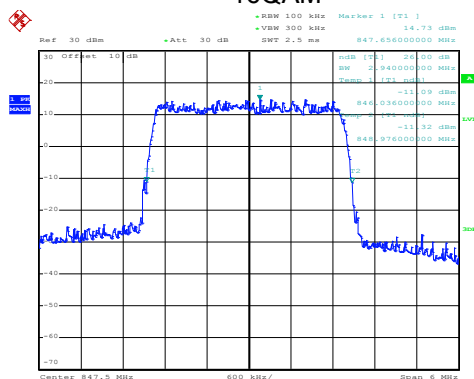
QPSK



Date: 11.OCT.2019 13:51:49

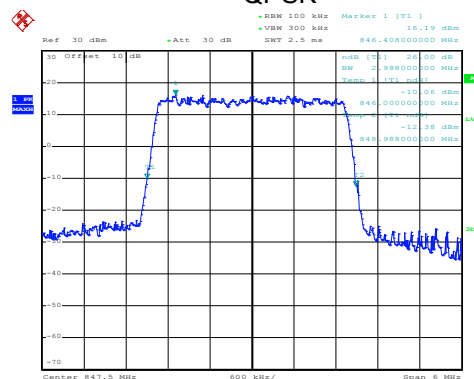
Middle channel

16QAM



Date: 11.OCT.2019 13:52:09

QPSK

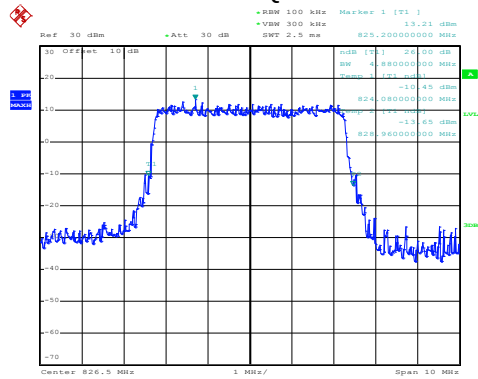


Date: 11.OCT.2019 13:52:06

Highest channel

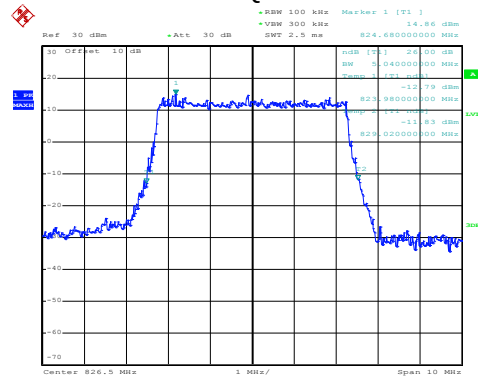
LTE Band 5: -26dBc bandwidth
BW: 5MHz

16QAM



Date: 11.OCT.2019 13:52:58

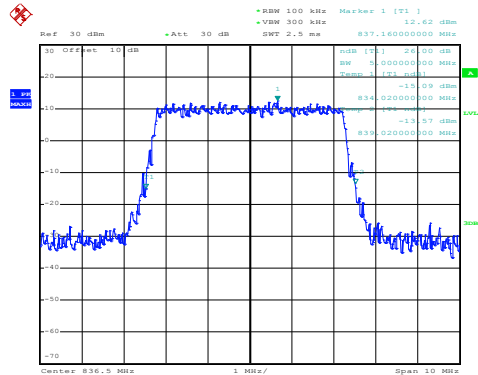
QPSK



Date: 11.OCT.2019 13:52:55

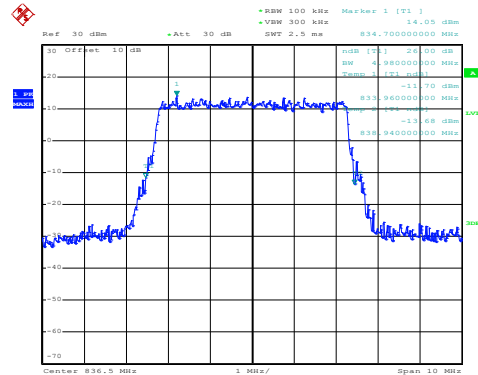
Lowest channel

16QAM



Date: 11.OCT.2019 13:53:28

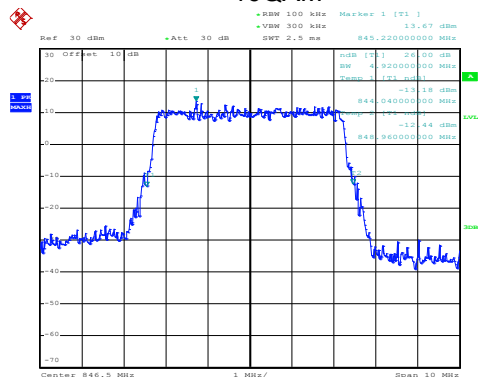
QPSK



Date: 11.OCT.2019 13:53:24

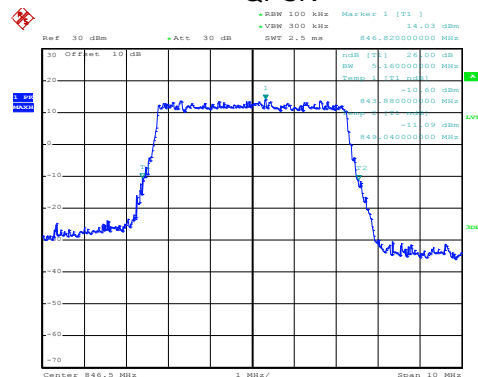
Middle channel

16QAM



Date: 11.OCT.2019 13:54:11

QPSK

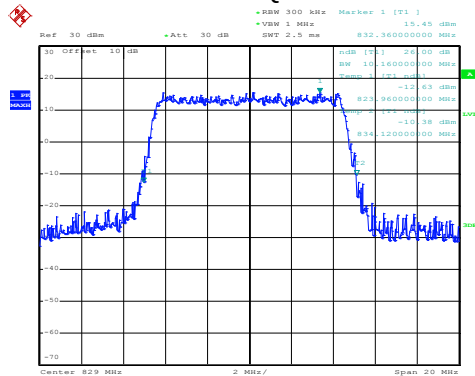


Date: 11.OCT.2019 13:54:08

Highest channel

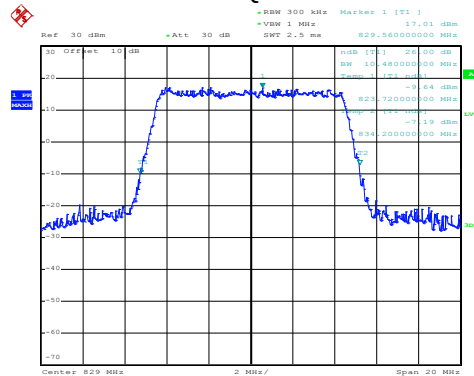
LTE Band 5: -26dBc bandwidth
BW: 10MHz

16QAM



Date: 11.OCT.2019 13:54:47

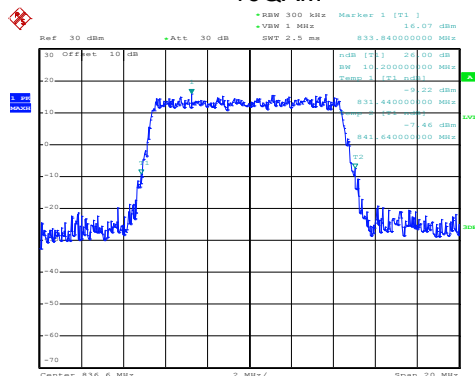
QPSK



Date: 11.OCT.2019 13:54:43

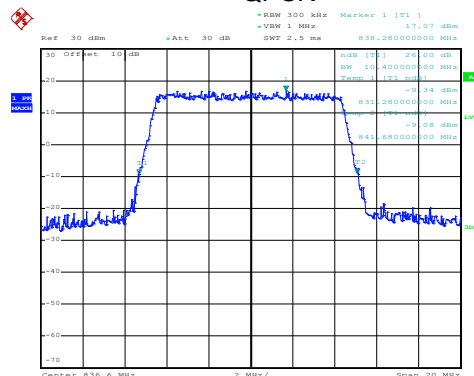
Lowest channel

16QAM



Date: 11.OCT.2019 13:55:25

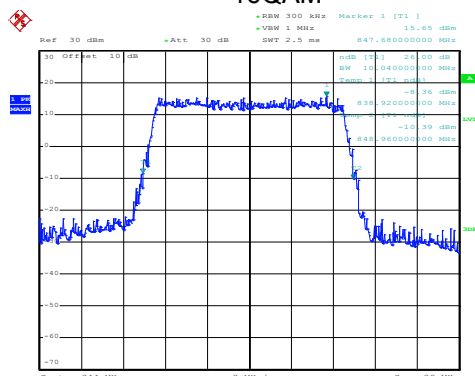
QPSK



Date: 11.OCT.2019 13:55:20

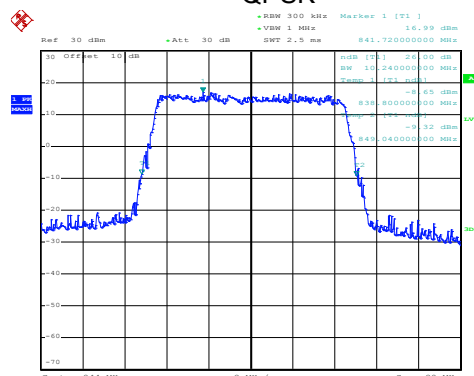
Middle channel

16QAM



Date: 11.OCT.2019 13:55:40

QPSK



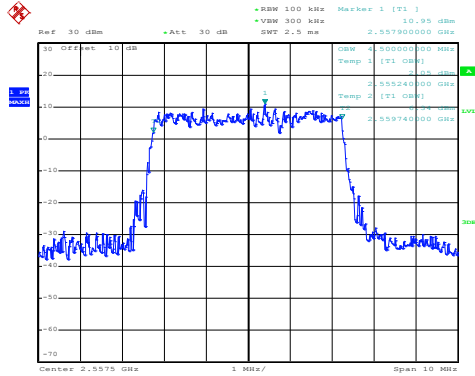
Date: 11.OCT.2019 13:55:36

Highest channel

LTE-Band 41 part:

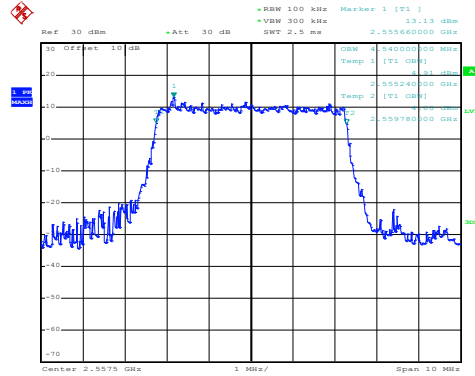
LTE Band 41: 99% Occupy bandwidth
BW: 5MHz

16QAM



Date: 11.OCT.2019 14:14:16

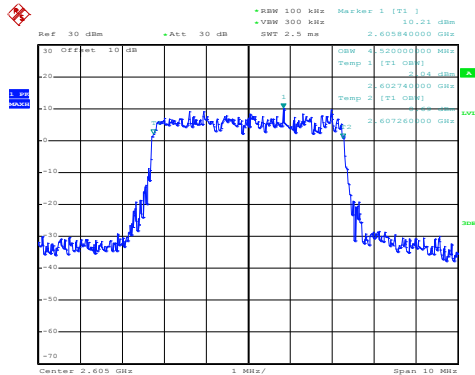
QPSK



Date: 11.OCT.2019 14:14:12

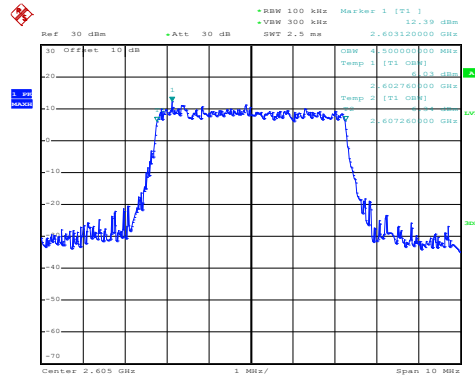
Lowest channel

16QAM



Date: 11.OCT.2019 14:15:04

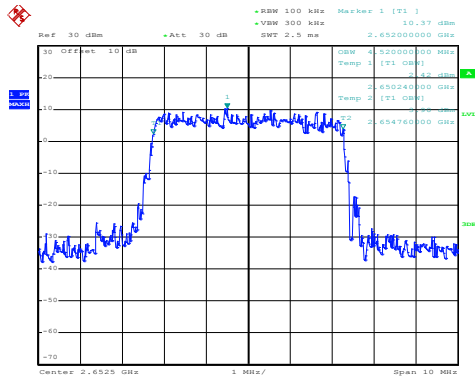
QPSK



Date: 11.OCT.2019 14:15:01

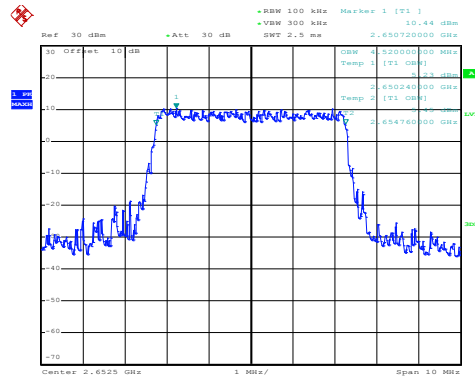
Middle channel

16QAM



Date: 11.OCT.2019 14:15:22

QPSK

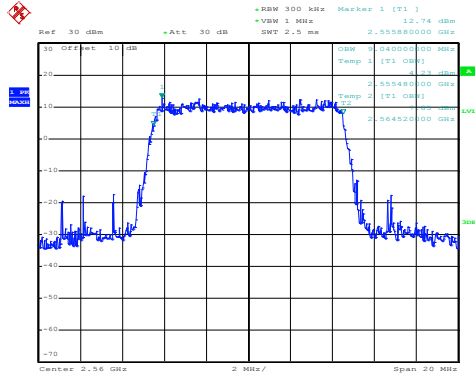


Date: 11.OCT.2019 14:15:18

Highest channel

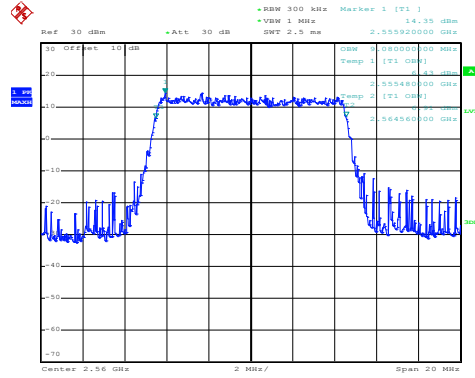
LTE Band 41: 99% Occupy bandwidth
BW: 10MHz

16QAM



Date: 11.OCT.2019 14:16:18

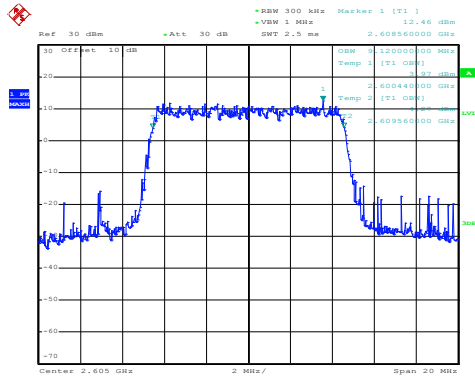
QPSK



Date: 11.OCT.2019 14:16:15

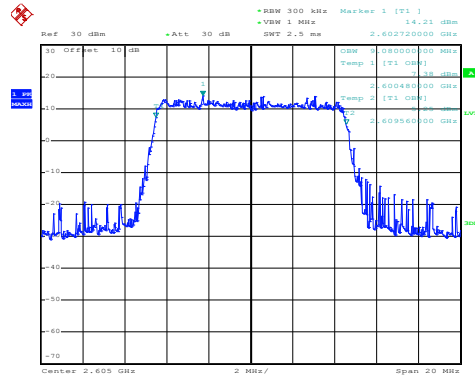
Lowest channel

16QAM



Date: 11.OCT.2019 14:16:46

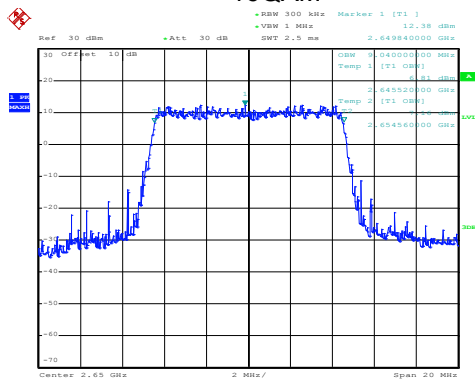
QPSK



Date: 11.OCT.2019 14:16:43

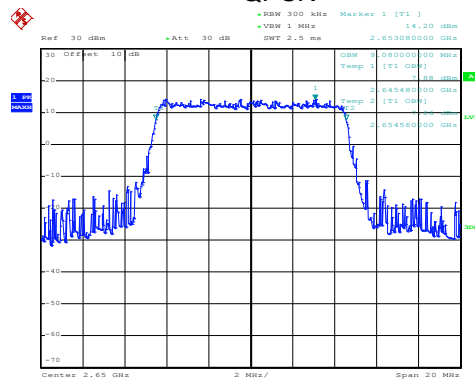
Middle channel

16QAM



Date: 11.OCT.2019 14:17:35

QPSK

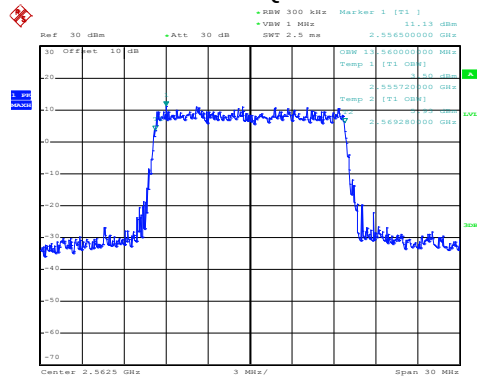


Date: 11.OCT.2019 14:17:32

Highest channel

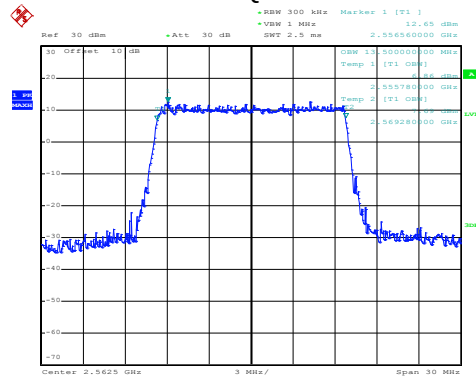
LTE Band 41: 99% Occupy bandwidth
BW: 15MHz

16QAM



Date: 11.OCT.2019 14:18:06

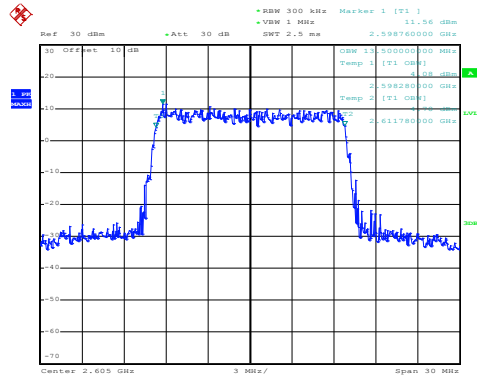
QPSK



Date: 11.OCT.2019 14:18:02

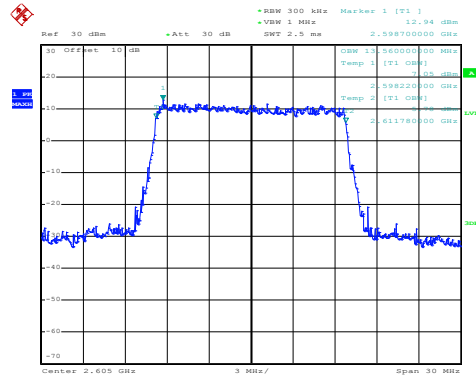
Lowest channel

16QAM



Date: 11.OCT.2019 14:18:46

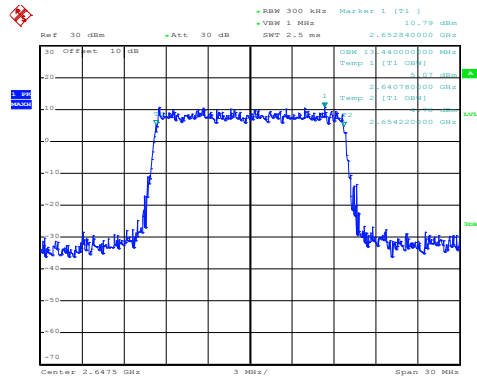
QPSK



Date: 11.OCT.2019 14:18:42

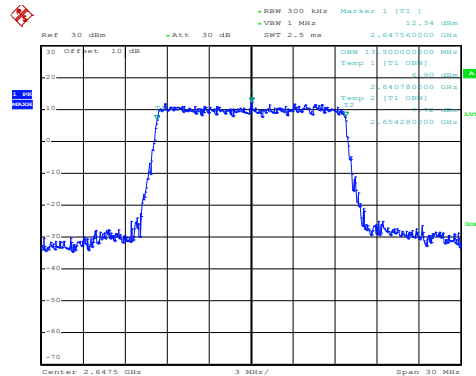
Middle channel

16QAM



Date: 11.OCT.2019 14:19:05

QPSK

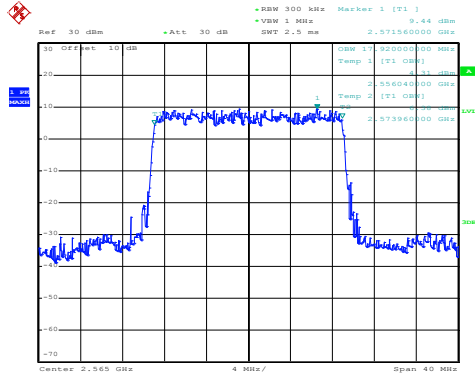


Date: 11.OCT.2019 14:19:02

Highest channel

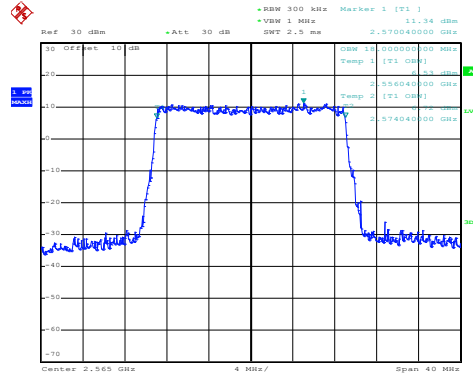
LTE Band 41: 99% Occupy bandwidth
BW: 20MHz

16QAM



Date: 11.OCT.2019 14:20:07

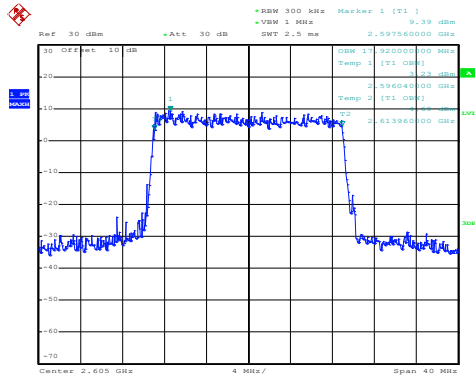
QPSK



Date: 11.OCT.2019 14:20:04

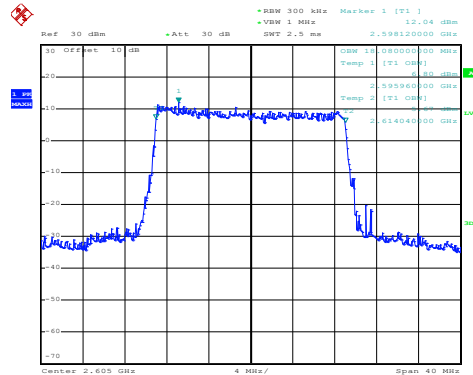
Lowest channel

16QAM



Date: 11.OCT.2019 14:20:22

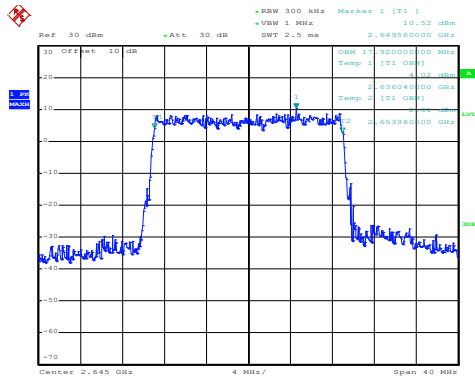
QPSK



Date: 11.OCT.2019 14:20:19

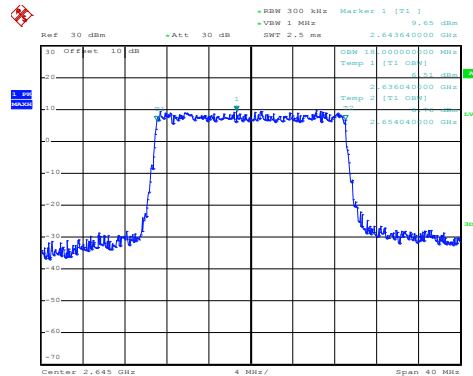
Middle channel

16QAM



Date: 11.OCT.2019 14:21:01

QPSK

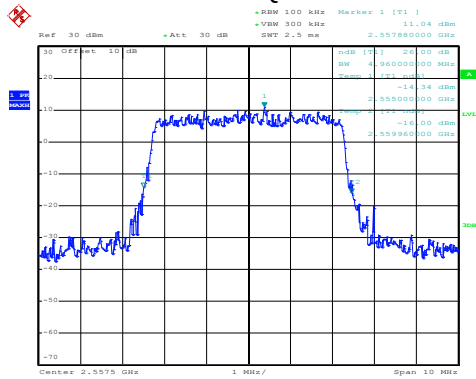


Date: 11.OCT.2019 14:20:57

Highest channel

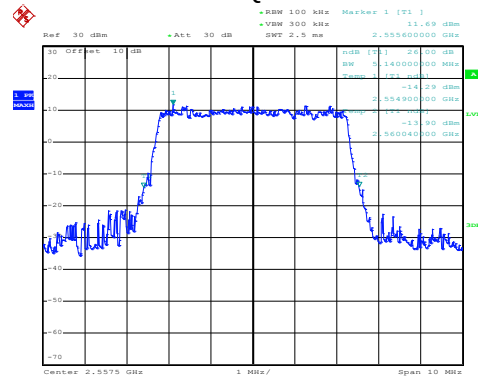
LTE Band 41: -26dBc bandwidth
BW: 5MHz

16QAM



Date: 11.OCT.2019 14:14:31

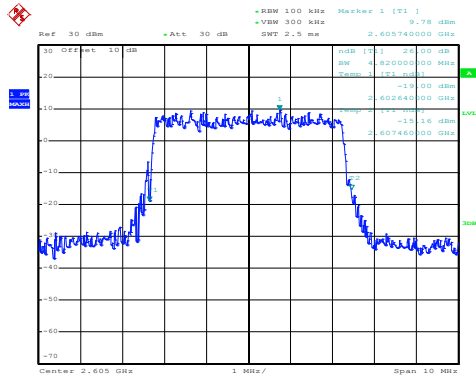
QPSK



Date: 11.OCT.2019 14:14:26

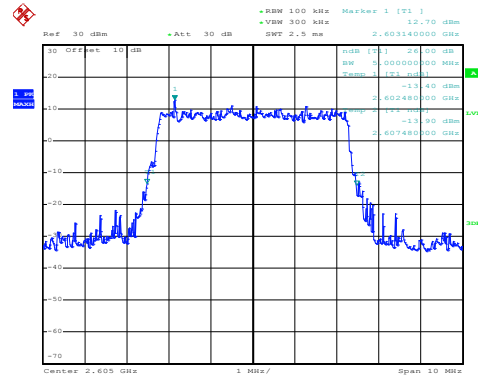
Lowest channel

16QAM



Date: 11.OCT.2019 14:14:53

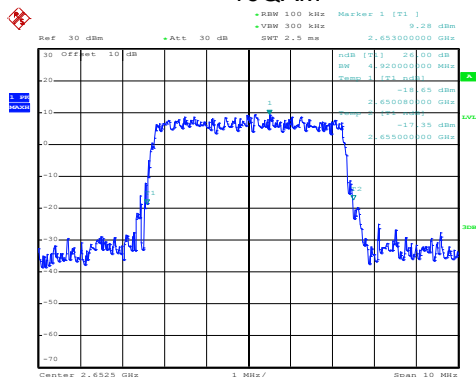
QPSK



Date: 11.OCT.2019 14:14:48

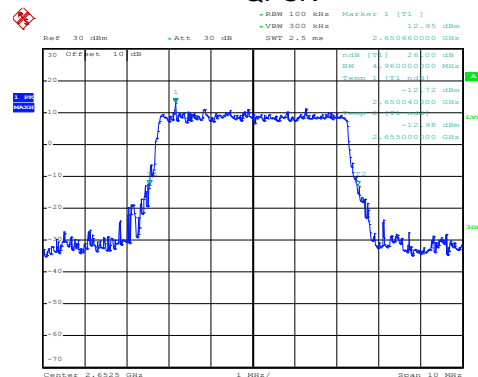
Middle channel

16QAM



Date: 11.OCT.2019 14:15:33

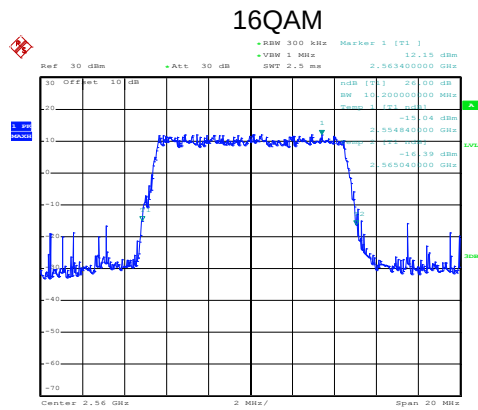
QPSK



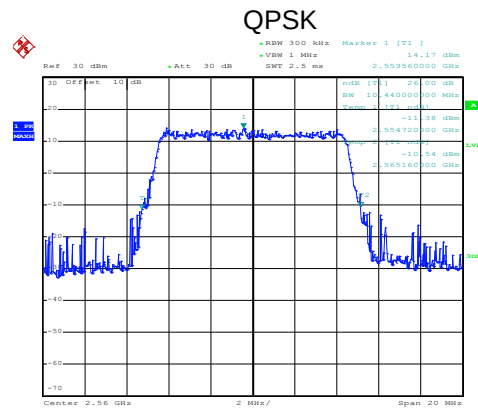
Date: 11.OCT.2019 14:15:29

Highest channel

LTE Band 41: -26dBc bandwidth
BW: 10MHz

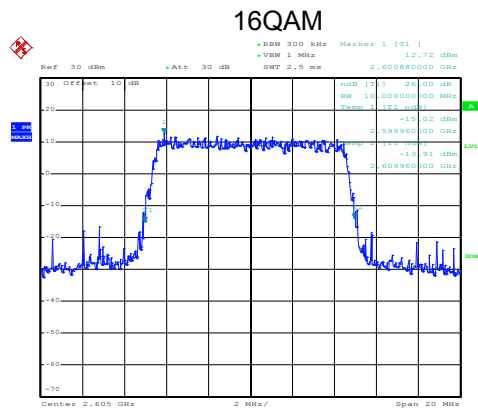


Date: 11.OCT.2019 14:16:08

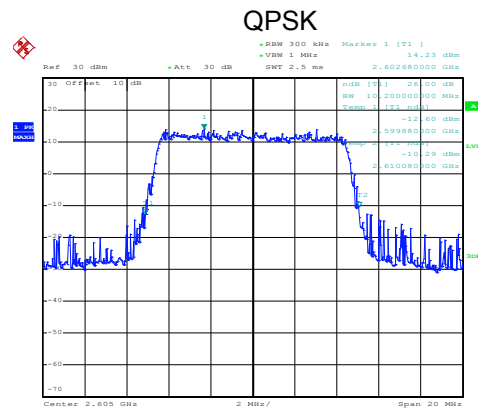


Date: 11.OCT.2019 14:16:03

Lowest channel

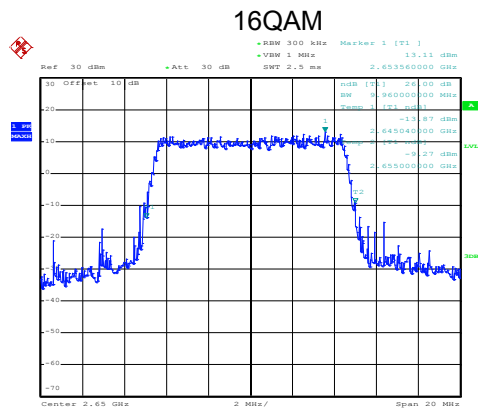


Date: 11.OCT.2019 14:16:58

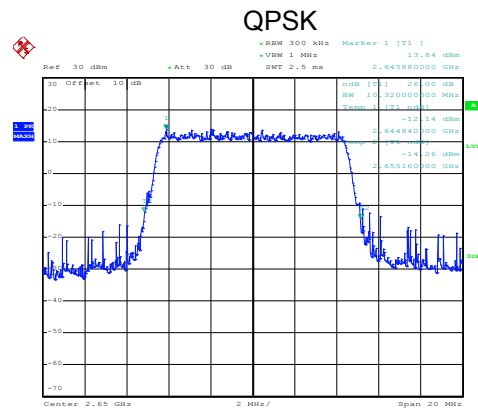


Date: 11.OCT.2019 14:16:55

Middle channel



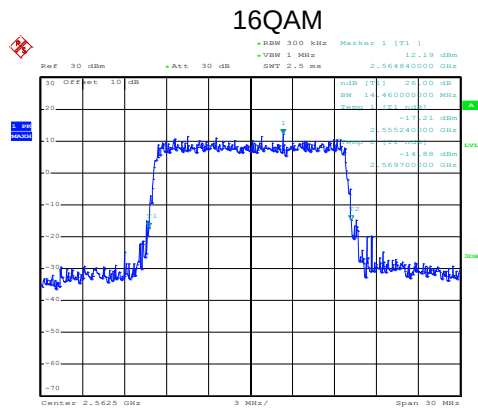
Date: 11.OCT.2019 14:17:14



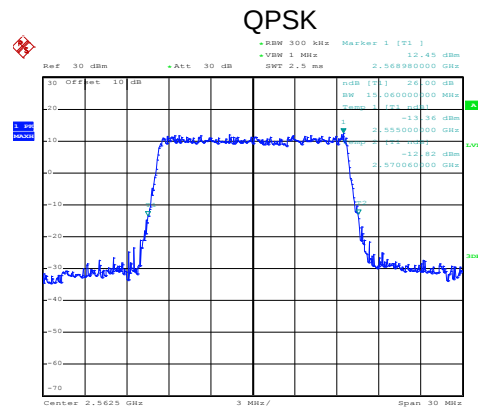
Date: 11.OCT.2019 14:17:11

Highest channel

LTE Band 41: -26dBc bandwidth
BW: 15MHz

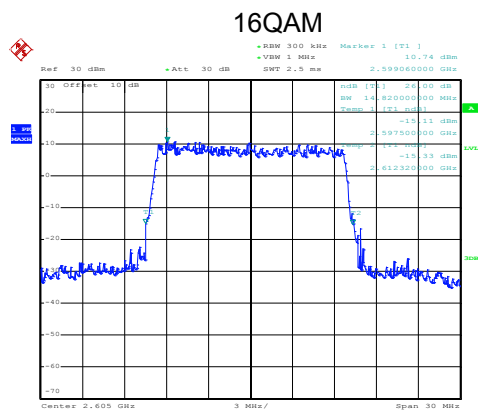


Date: 11.OCT.2019 14:18:17

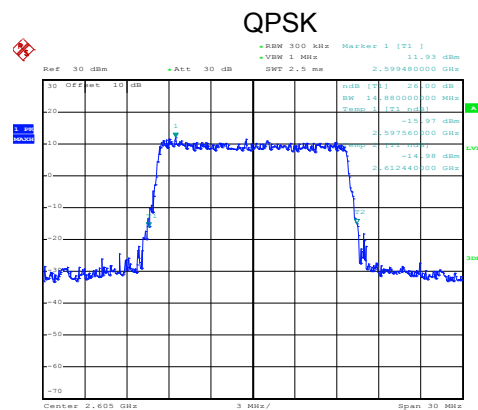


Date: 11.OCT.2019 14:18:14

Lowest channel

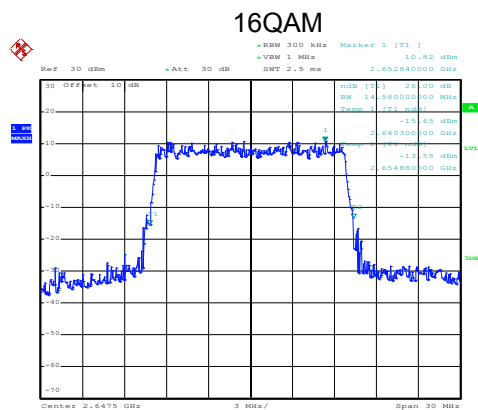


Date: 11.OCT.2019 14:18:33

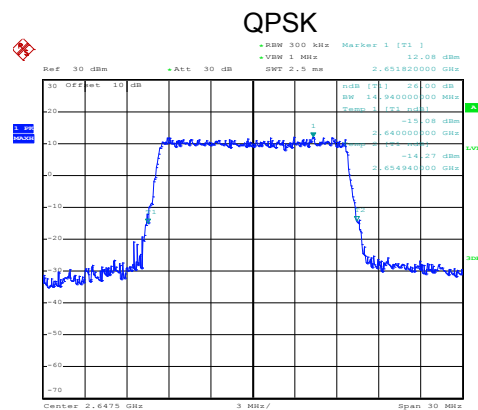


Date: 11.OCT.2019 14:18:29

Middle channel



Date: 11.OCT.2019 14:19:17

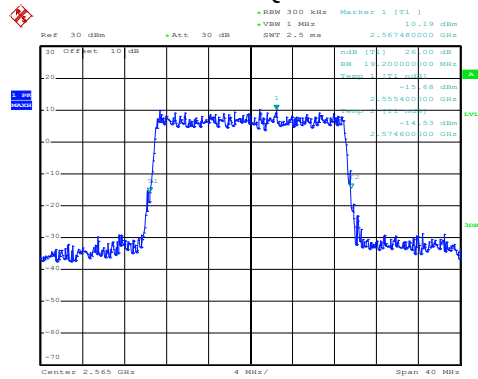


Date: 11.OCT.2019 14:19:13

Highest channel

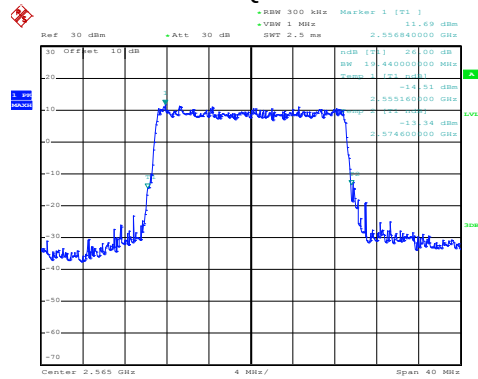
LTE Band 41: -26dBc bandwidth
BW: 20MHz

16QAM



Date: 11.OCT.2019 14:19:54

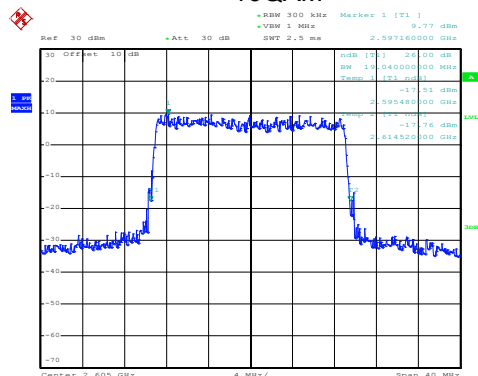
QPSK



Date: 11.OCT.2019 14:19:50

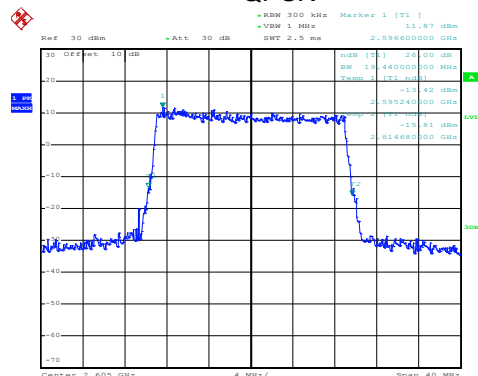
Lowest channel

16QAM



Date: 11.OCT.2019 14:20:34

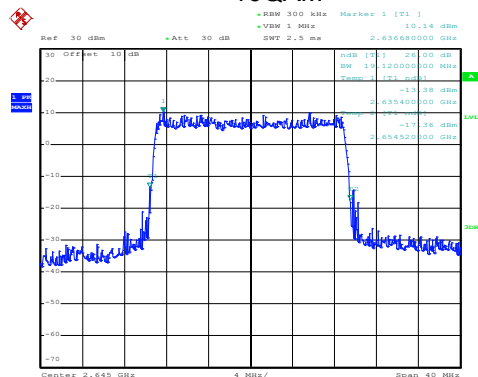
QPSK



Date: 11.OCT.2019 14:20:29

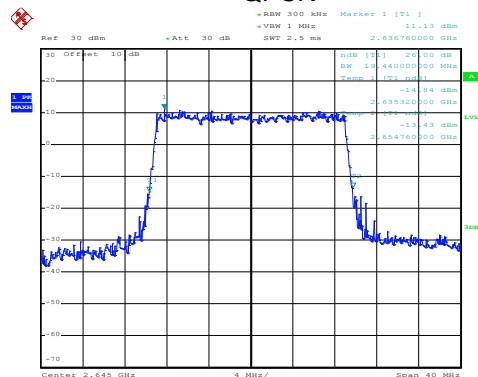
Middle channel

16QAM



Date: 11.OCT.2019 14:20:51

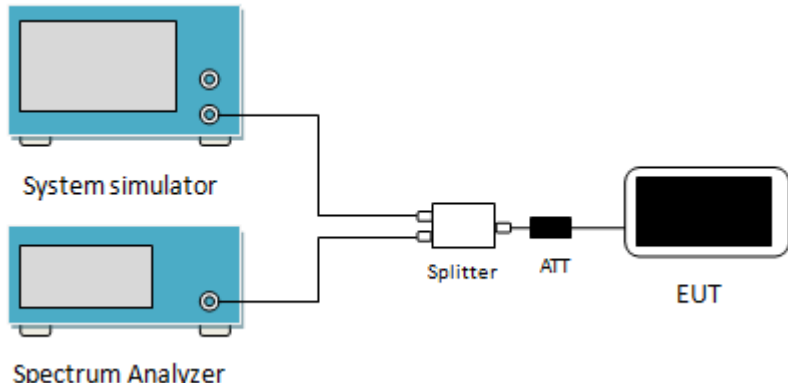
QPSK



Date: 11.OCT.2019 14:20:47

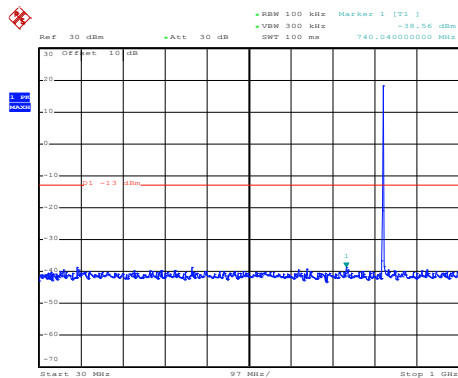
Highest channel

6.4 Out of band emission at antenna terminals

Test Requirement:	Part 22.917(b), Part 27.53(m)
Limit:	LTE Band 5 : The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB (-13 dBm). LTE Band 41: For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz.
Test Setup:	 The diagram illustrates the test setup. On the left, there are two blue rectangular units: the top one is labeled 'System simulator' and the bottom one is labeled 'Spectrum Analyzer'. Both have a single output port. These two ports are connected to a central 'Splitter' unit, which is a small white rectangle with two input ports and one output port. The output of the Splitter is connected to a black rectangular unit labeled 'ATT' (attenuator). Finally, the output of the ATT is connected to a white rectangular unit with a black screen, labeled 'EUT' (Equipment Under Test).
Test Procedure:	1 The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. 2 The resolution bandwidth of the spectrum analyzer was set at 100 kHz when below 1GHz, 1MHz when above 1 GHz; sufficient scans were taken to show the out of band Emissions if any up to 10th harmonic. 3 For the out of band: Set the RBW=100 kHz, VBW=300 kHz when below 1 GHz, RBW =1 MHz, VBW=3 MHz when above 1 GHz, Start=30MHz, Stop= 10th harmonic. 4 Band Edge Requirements: In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the out of band Emissions.
Test Instruments:	Refer to section 5.10 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed
Remark:	Pre-scan all RB Size and offset, and found the RB Size and offset of worst case, so the report shows only the worst case test data.

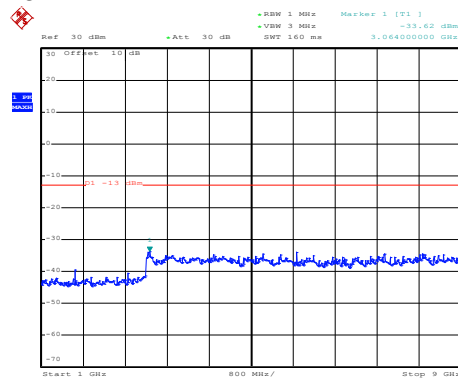
Test plots as follows (Conducted spurious emission) (worst case):
LTE Band 5 part:

LTE Band 5: 16 QAM & RB Size 1
BW: 1.4MHz
Lowest channel



Date: 11.OCT.2019 14:42:09

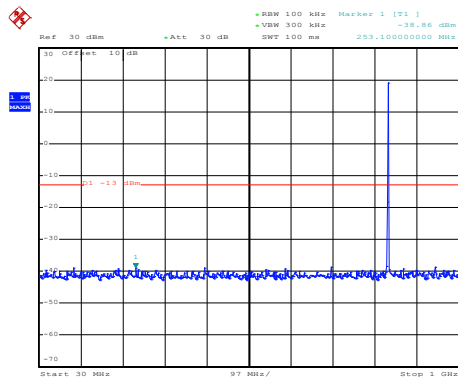
30MHz~1GHz



Date: 11.OCT.2019 14:58:58

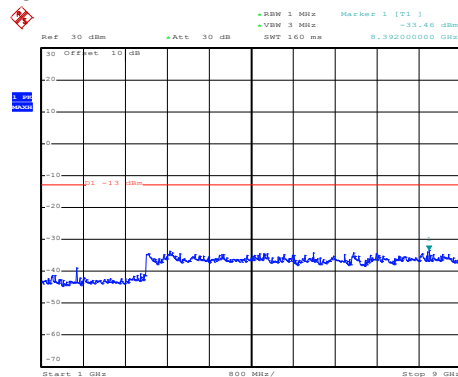
1GHz~9GHz

Middle channel



Date: 11.OCT.2019 14:43:21

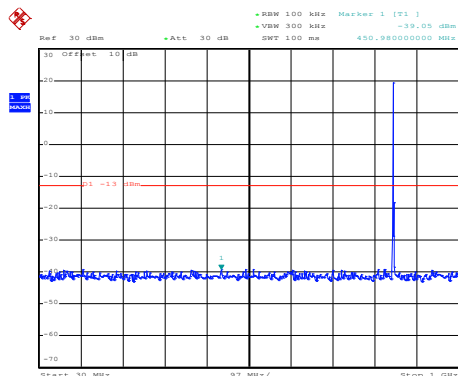
30MHz~1GHz



Date: 11.OCT.2019 14:59:40

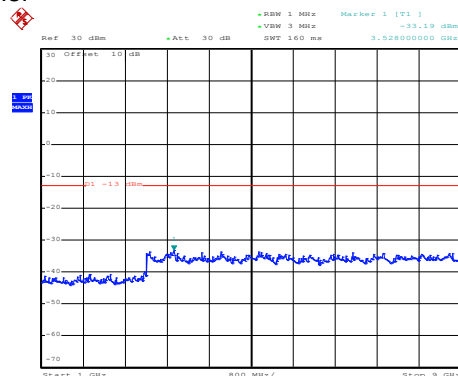
1GHz~9GHz

High channel



Date: 11.OCT.2019 14:43:46

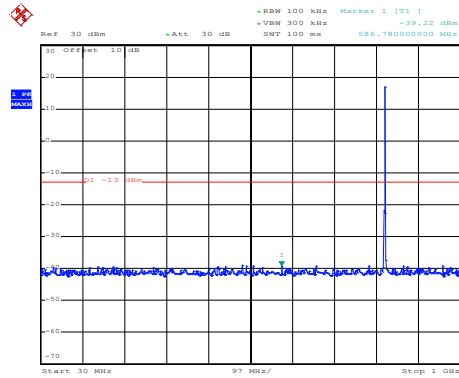
30MHz~1GHz



Date: 11.OCT.2019 14:59:58

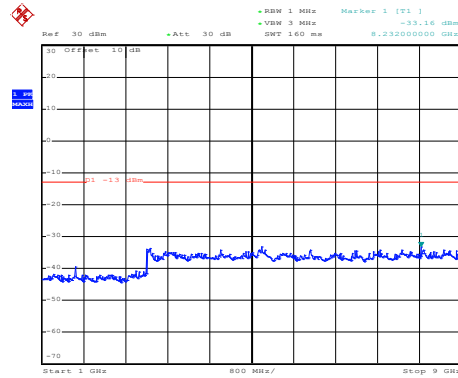
1GHz~9GHz

LTE Band 5: 16 QAM & RB Size 6 BW: 1.4MHz Lowest channel



Date: 11.OCT.2019 14:42:33

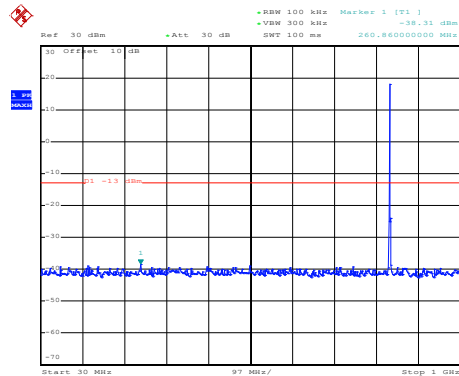
30MHz~1GHz



Date: 11.OCT.2019 14:59:13

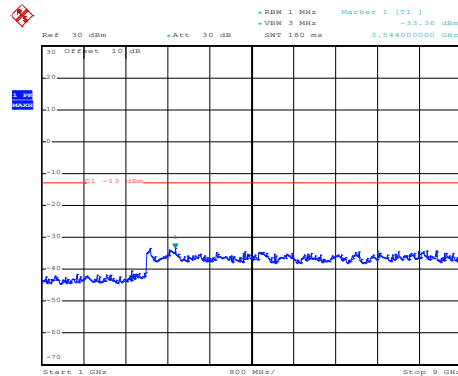
1GHz~9GHz

Middle channel



Date: 11.OCT.2019 14:43:00

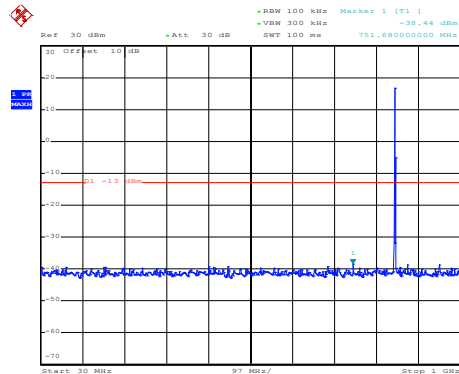
30MHz~1GHz



Date: 11.OCT.2019 14:59:26

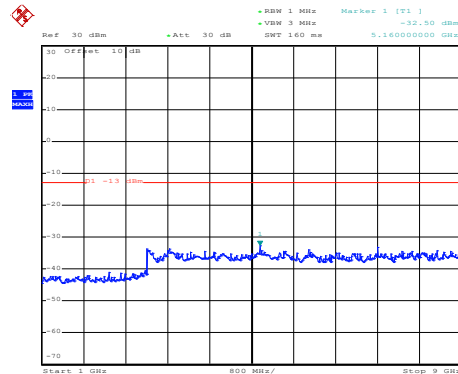
1GHz~9GHz

High channel



Date: 11.OCT.2019 14:45:35

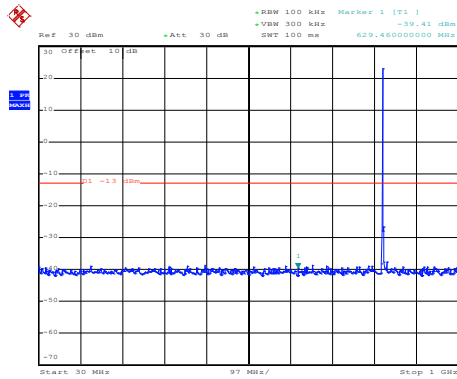
30MHz~1GHz



Date: 11.OCT.2019 15:00:14

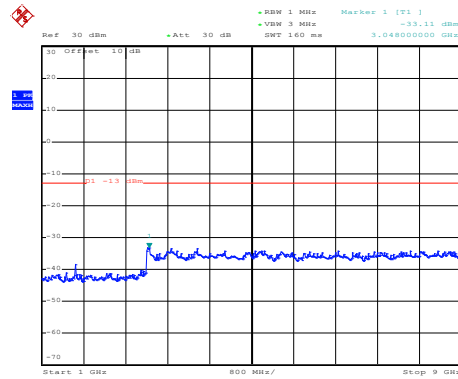
1GHz~9GHz

LTE Band 5: QPSK & RB Size 1 BW: 1.4MHz Lowest channel



Date: 11.OCT.2019 14:42:01

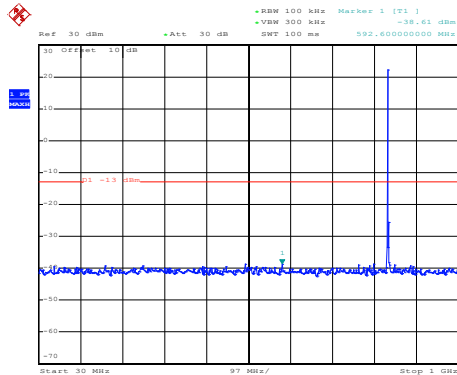
30MHz~1GHz



Date: 11.OCT.2019 14:58:54

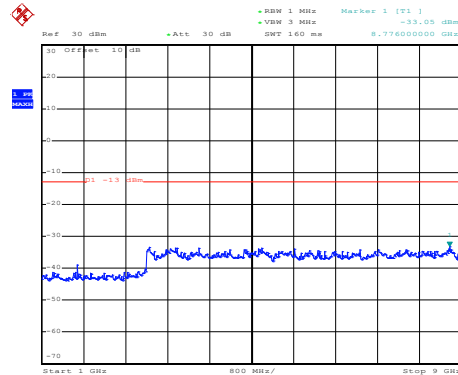
1GHz~9GHz

Middle channel



Date: 11.OCT.2019 14:43:12

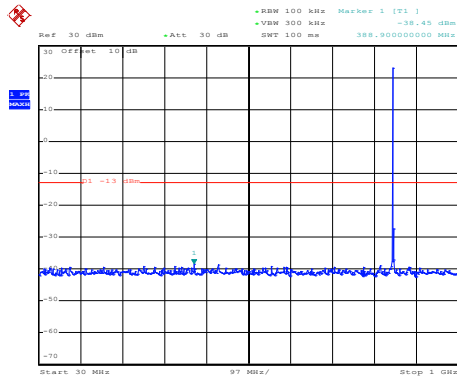
30MHz~1GHz



Date: 11.OCT.2019 14:59:35

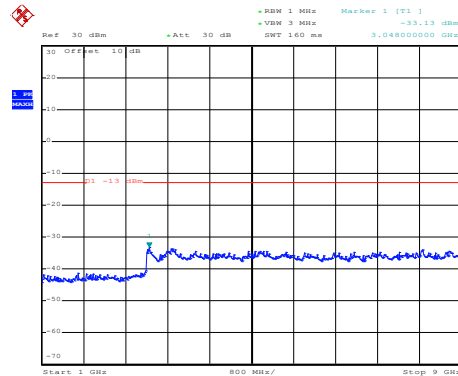
1GHz~9GHz

High channel



Date: 11.OCT.2019 14:43:38

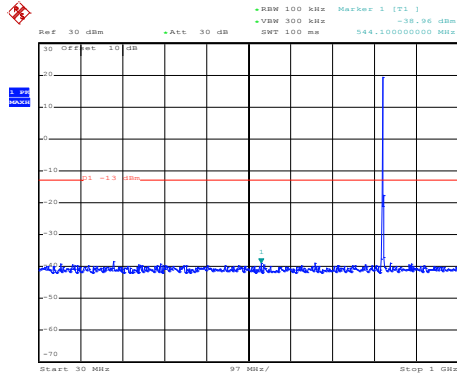
30MHz~1GHz



Date: 11.OCT.2019 14:59:50

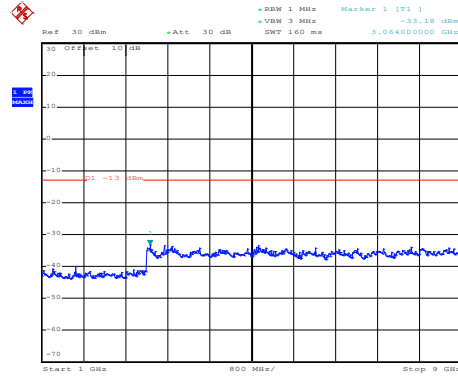
1GHz~9GHz

LTE Band 5: QPSK & RB Size 6 BW: 1.4MHz Lowest channel



Date: 11.OCT.2019 14:42:23

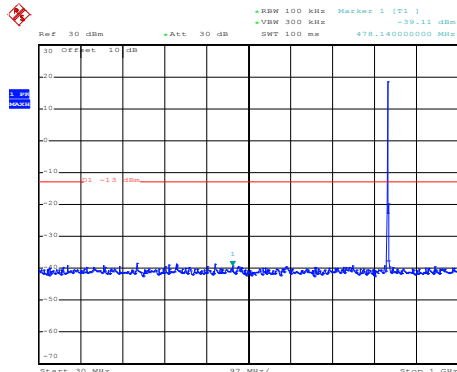
30MHz~1GHz



Date: 11.OCT.2019 14:59:06

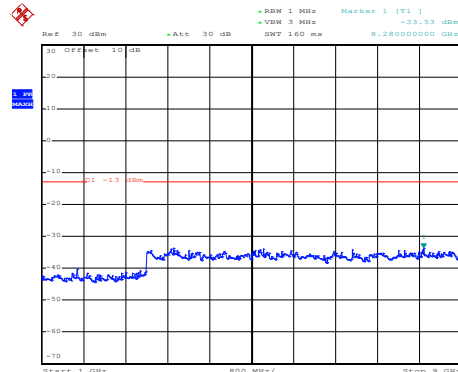
1GHz~9GHz

Middle channel



Date: 11.OCT.2019 14:42:49

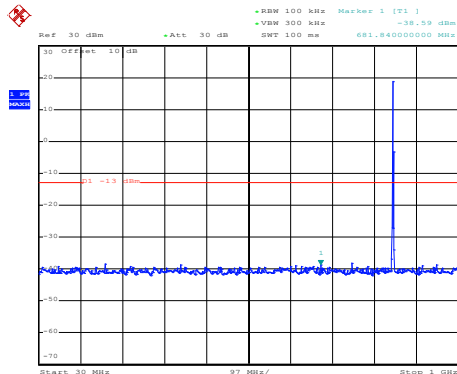
30MHz~1GHz



Date: 11.OCT.2019 14:59:21

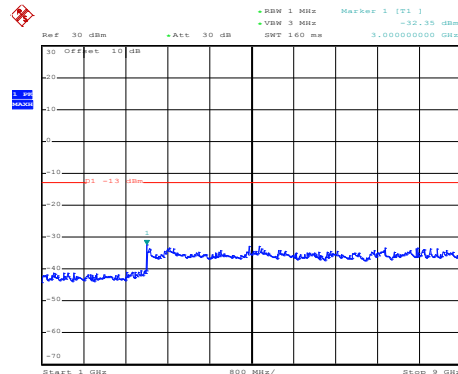
1GHz~9GHz

High channel



Date: 11.OCT.2019 14:45:26

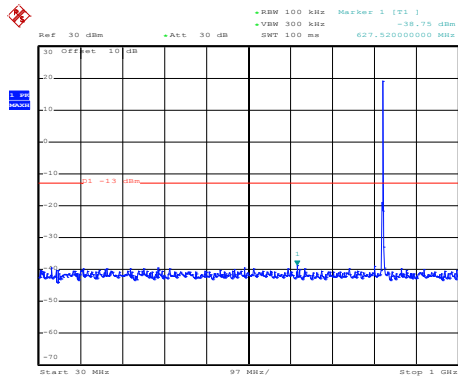
30MHz~1GHz



Date: 11.OCT.2019 15:00:08

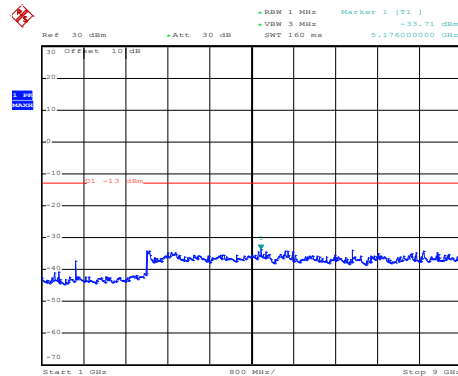
1GHz~9GHz

LTE Band 5: 16 QAM & RB Size 1
BW: 3MHz
Lowest channel



Date: 11.OCT.2019 14:46:31

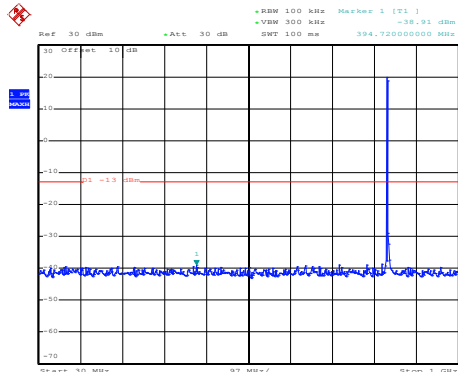
30MHz~1GHz



Date: 11.OCT.2019 14:57:20

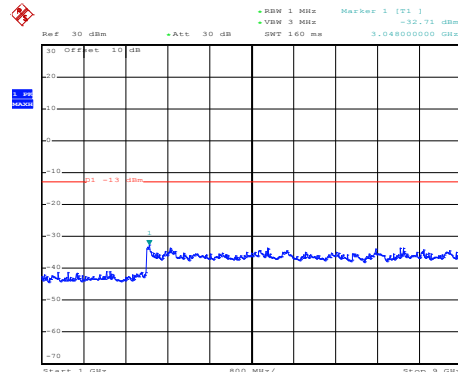
1GHz~9GHz

Middle channel



Date: 11.OCT.2019 14:47:38

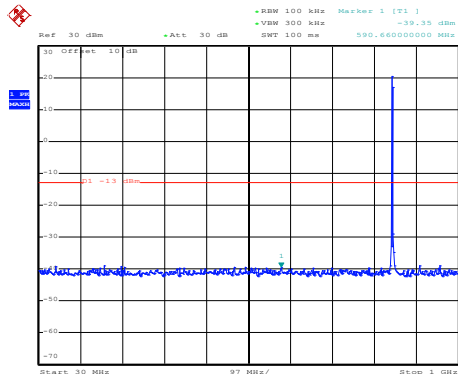
30MHz~1GHz



Date: 11.OCT.2019 14:58:02

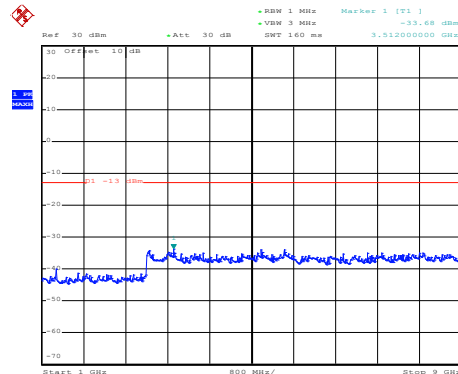
1GHz~9GHz

High channel



Date: 11.OCT.2019 14:48:06

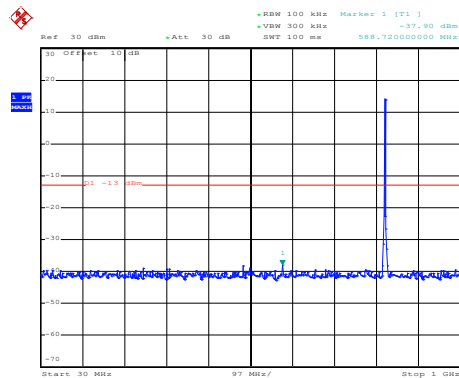
30MHz~1GHz



Date: 11.OCT.2019 14:58:18

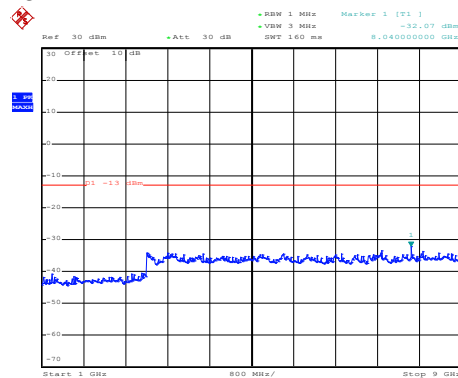
1GHz~9GHz

LTE Band 5: 16 QAM & RB Size 15 BW: 3MHz Lowest channel



Date: 11.OCT.2019 14:46:53

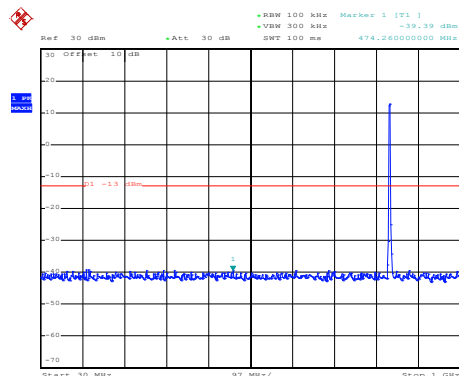
30MHz~1GHz



Date: 11.OCT.2019 14:57:35

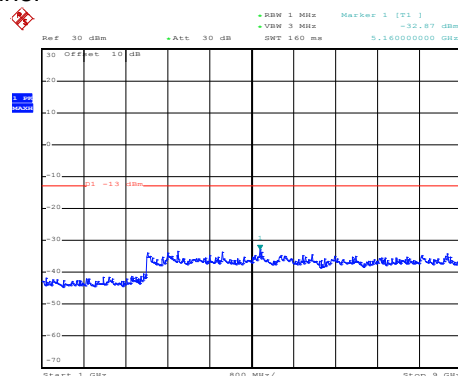
1GHz~9GHz

Middle channel



Date: 11.OCT.2019 14:47:19

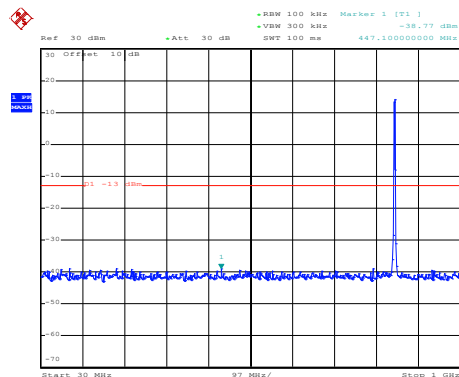
30MHz~1GHz



Date: 11.OCT.2019 14:57:48

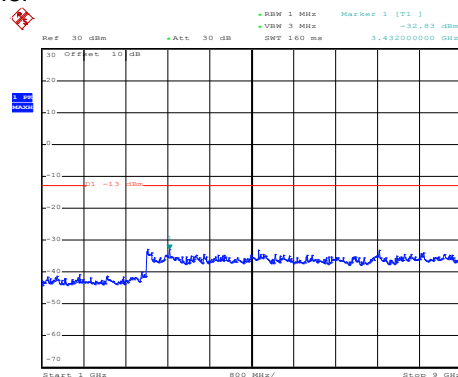
1GHz~9GHz

High channel



Date: 11.OCT.2019 14:48:25

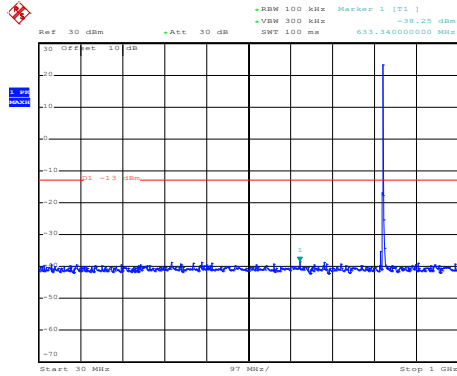
30MHz~1GHz



Date: 11.OCT.2019 14:58:32

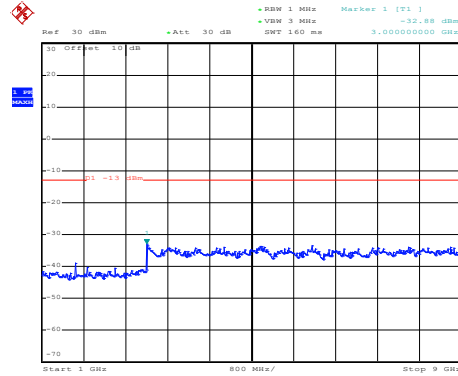
1GHz~9GHz

LTE Band 5: QPSK & RB Size 1 BW: 3MHz Lowest channel



Date: 11.OCT.2019 14:46:26

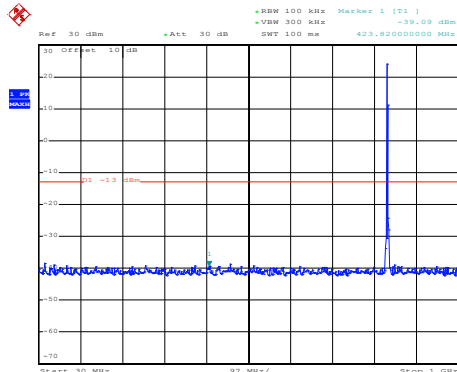
30MHz~1GHz



Date: 11.OCT.2019 14:57:15

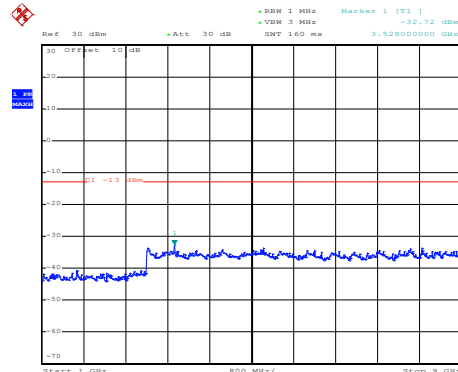
1GHz~9GHz

Middle channel



Date: 11.OCT.2019 14:47:30

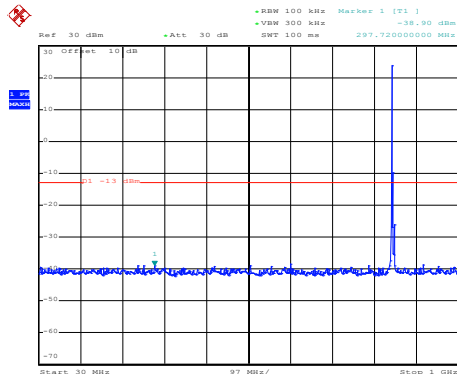
30MHz~1GHz



Date: 11.OCT.2019 14:57:56

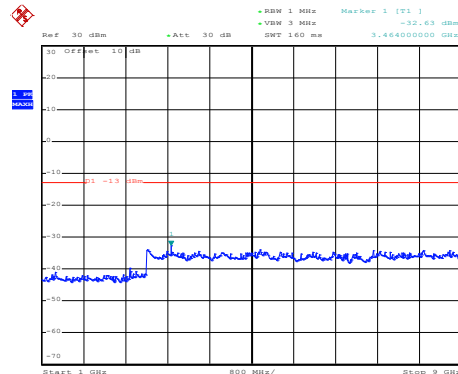
1GHz~9GHz

High channel



Date: 11.OCT.2019 14:47:55

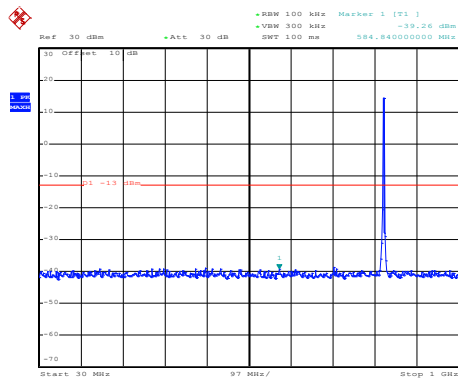
30MHz~1GHz



Date: 11.OCT.2019 14:58:14

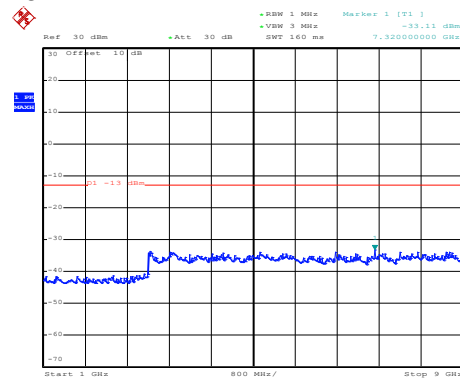
1GHz~9GHz

LTE Band 5: QPSK & RB Size 15
BW: 3MHz
Lowest channel



Date: 11.OCT.2019 14:46:43

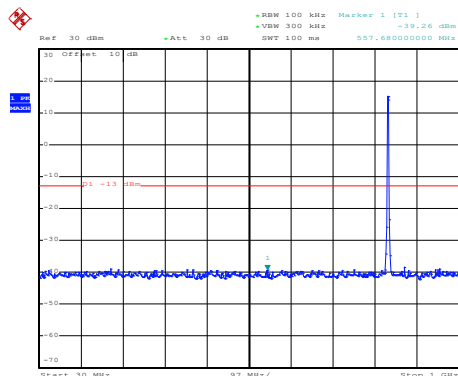
30MHz~1GHz



Date: 11.OCT.2019 14:57:29

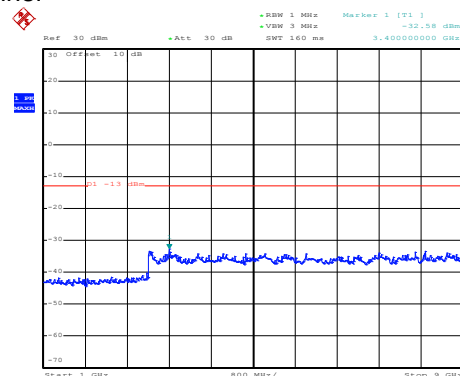
1GHz~9GHz

Middle channel



Date: 11.OCT.2019 14:47:11

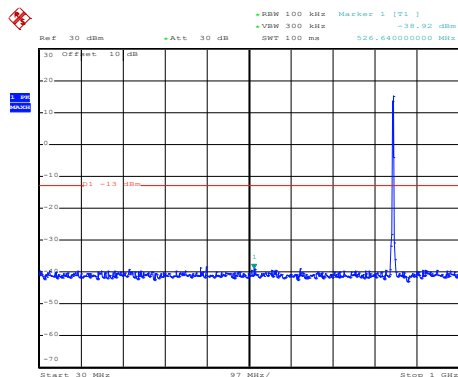
30MHz~1GHz



Date: 11.OCT.2019 14:57:43

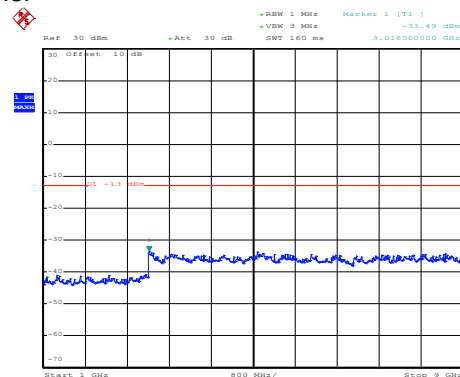
1GHz~9GHz

High channel



Date: 11.OCT.2019 14:48:17

30MHz~1GHz



Date: 11.OCT.2019 14:58:26

1GHz~9GHz